



Timed Split Charging Unit, ALT01

31st January, 2007

Overview

The ALT01 Timed Split Charging System is designed to allow the charging of both engine and domestic battery banks where they do not require isolation from each other. The alternator is connected such that it is always charging the domestic battery bank, and the engine battery is charged for 15 minutes when the engine is started. For the duration of engine battery charge, the ALT01 connects the engine and domestic battery banks together for 15 minutes, allowing sufficient time for the engine battery to recharge. After this time, the ALT01 disconnects the engine battery, and the alternator continues to charge the domestic battery.

Specifications

| | Parameter | ALT01 | Unit | Comment |
|------------|-----------------------------------|----------------------------|---------|--------------------------------------|
| Electrical | Nominal Operating Voltage | 14.4 | V DC | |
| | Sustained Operating Voltage Range | 9 – 18 | V DC | |
| | Peak Operating Voltage | 20 | V DC | <1min max |
| | Operating Current | 500 | mA | Max |
| | Engine Battery Charge Duration | 15 | Minutes | ±3 Minutes |
| | Accessory Battery Charge Duration | - | | Permanently connected to Alternator |
| | Continuous Switching Current | 80 | A | Max |
| | Peak Switching Current | 120 | A | <10msec at nominal operating voltage |
| Mechanical | Operating Temperature Range | -5 – 70 (23 – 160) | °C (°F) | |
| | Dimensions | 110×110×64 (4.3×4.3×2.5) | mm (in) | L×W×H, excl. connection protrusion |
| | Mechanical Fixing | 4× 4.5mm | | Remove top cover for access |
| | Electrical Connections | 2× M6 thread, 2× M4 thread | | See below for connection details |

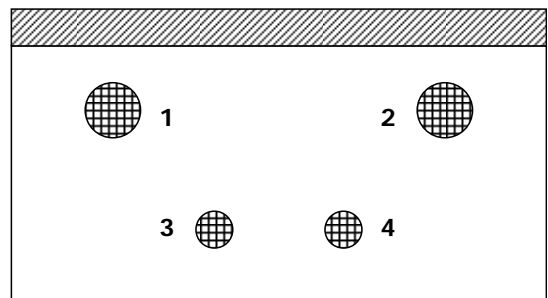
Mounting and Connection Guidelines

An electrical connection diagram of the ALT01 module, **viewed from the front**, is shown below. Electrical connections are as follows:

1. Alternator and Domestic Battery Input (M6 thread)
2. Engine Battery Output (M6 thread)
3. Earth (M4 thread)
4. Alternator Warning Light Input (M4 thread)

The ALT01 will begin timing from the moment the engine is started.

It is vital that pin 4 be connected to the alternator warning lamp output and NOT the ignition. This is to ensure the engine starting current does not flow through the ALT01 from the domestic battery when the engine is being started.



The connection diagram to the right illustrates a typical application of the ALT01. The "S" connection on the alternator is the "sense" input on battery-sensed alternators, and should be connected directly to the domestic battery terminal. Machine-sensed alternators do not have this connection. The "A" terminal is the alternator warning lamp output and ALT01 must be powered from this connection.

The cables running to pins 1 and 2 of the ALT01 must be as thick as possible as these cables will carry the charging current of the engine battery. Cables rated at 80-100A are recommended.

ALT01 is fully sealed against water and oil, and should be mounted away from sources of heat.

