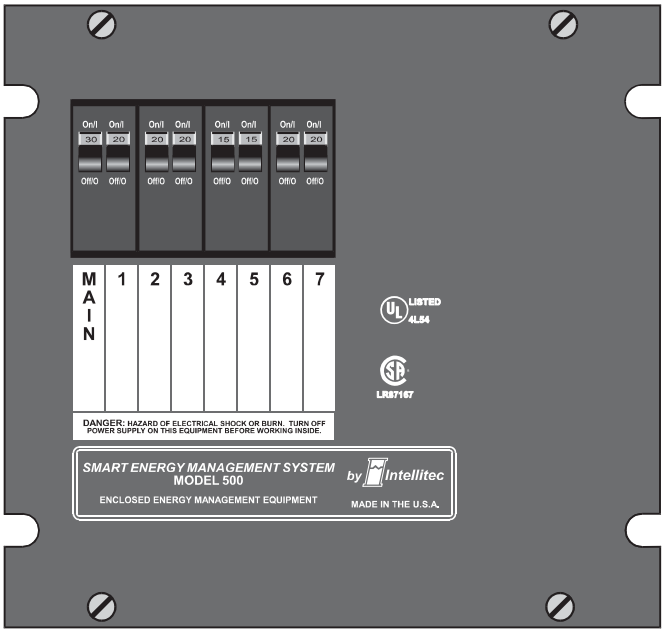
Single "Air" Energy Management System

Intellitec's **Single Air Conditioner Energy Management System** (**Single Air EMS**) is designed to be used in RVs equipped with 30 Amp power cords. It includes a 120 volt circuit breaker distribution panel which can accommodate up to four, twin circuit breakers. One of these circuit breakers is used as the Main; the other seven breakers can be used as branches to power the loads.

The **Single Air Conditioner EMS** monitors the total amount of current drawn in the RV and automatically controls the air conditioner, as necessary, to practically eliminate circuit breaker tripping.

The **Single Air Conditioner EMS** automatically "learns" the amount of current drawn by the air conditioner. In this way, it automatically adapts to changes in current with line voltage or temperature.



Features:

- Limits total current to 30 Amps.
- Meets NEC section 551-42(c) for adding breakers over the maximum limit of five and allowing for more than two thermostatically controlled appliances.
- Minimizes circuit breaker tripping.
- Eliminates manual appliance select switches.
- Protects air conditioner with two minute restart delay.
- "Learns" air conditioner current draw.
- Optional remote panel with an analog AC line amp meter.

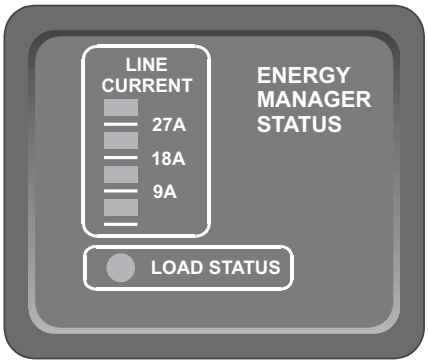
SINGLE AIR CONDITIONER EMS OPERATION

The air conditioner, whose use can be temporarily postponed, is one of the largest loads in the RV. Temporarily postponing it's use leaves enough power to operate the "on demand" appliances, such as the microwave, hair dryer, or toaster.

Single Air Conditioner EMS turns off the air conditioner when the total current in the RV exceeds 30 amps. It will restore power to the air conditioner when the total current drops below a level that allows it to operate again.

OPTIONAL REMOTE MONITOR PANEL

To help the owner understand what the system is doing, an LED indicator shows when power is being applied to the air conditioner.



When the power is available, the LED will be on. It will blink during the two minute delay period. Also, a series of four LED's indicate the total amount of current being drawn by all the loads in the RV.

Intellitec
1485 Jacobs Rd.
Deland, FL 32724
386.738.7307

P/N 53-00715-000 Rev. C 080919

Single "Air" Energy Management System

How Does It Work?

The **Single Air EMS** controls power to the air conditioner, which is a large load whose function can be postponed until there is enough power available to operate it.

When the shore cord is first plugged in, **Single Air EMS** turns on power to the air conditioner. This happens within seconds, so it is transparent to the owner. If the total current exceeds 30 Amps, the **Single Air EMS** senses this over-load and turns off the air conditioner. The system notes the amount of current "decrease" and puts that amount in memory as the amount of current the air conditioner was drawing. The system continues to monitor the total current and when it drops to a level that is the amount of the air conditioner, it will turn it back on. At least two minutes must have passed before power will be re-applied.

In this way, the actual current of the air conditioner, operating at that particular line voltage, temperature, and load will be learned and used by the system. This current will be "re-learned" each time the air conditioner is turned off. This assures that the system will operate the air conditioner when the exact amount of power is available and will not unnecessarily cycle it.

To meet the NEC requirements, the system keeps track of the average total current drawn. If the average current over a three hour period exceeds 80% of the 30 Amp source (24 Amps), the system will turn off the air conditioner to drop the three hour average back below 80% of the source rating.

An optional monitor panel is available that offers a display of the total current being drawn and status indication of the power to the air conditioner. This panel keeps the owner informed as to how much current is being drawn, and helps them understand how current is being drawn by each appliance.

Specifications:

Part Number:	00-00715-000
Ambient Temperature Range:	-40C to +85C
Operating Environment:	Out of direct weather
Delay before reapplying power:	Two minutes (all loads)
Controled Load:	One, OEM selectable
Relay Rating:	(1) AC - 1 HP, 15A, 120 VAC 60 HZ
U.S. Patents:	4499385, 4617472

Installation:

Smart EMS is housed in a metal box that can be flush mounted in a cabinet, inside of the RV. The Smart EMS housing is approximately 10"W x 9 1/2"H x 3 1/2" deep.

120 VOLT CIRCUIT BLOCK

Main Feed: 30 amps
Branch Circuits: Seven
Breaker Locations: (4) Twin Breakers
Breaker Types: Bryant - BR, BD, GFCB,
Filler Plate FP-1B
ITE Gould - QP, QT,
Filler Plate Qf3

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