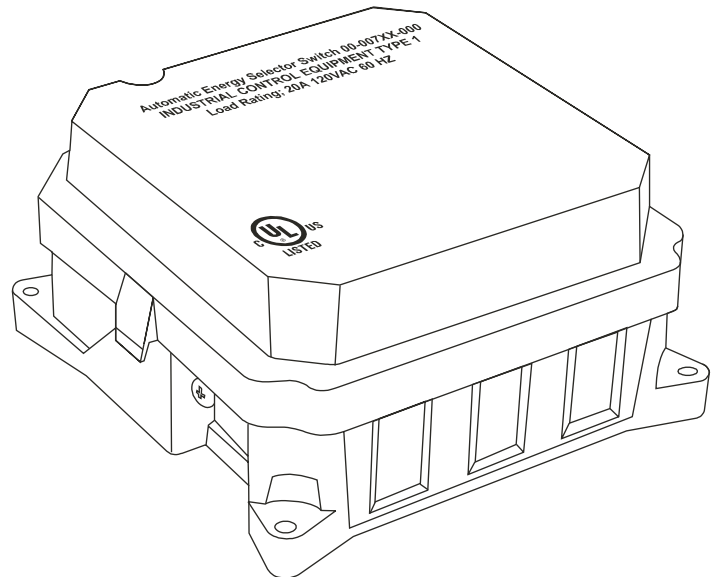


Automatic Energy Select Switch

Intellitec's **Automatic Energy Select Switch (AESS)** is designed to be used in RVs to share the power available from a single circuit breaker between two large loads. The **AESS** applies power to both appliances until the primary load is turned on. It then removes power from the secondary load to prevent the circuit breaker from being overloaded. This function is particularly useful for sharing power between the microwave oven and another "sheddable" or postpone-able appliance, such as the washer/dryer, or water heater. Typically, this function has performed with selector switches, forcing the owner to manually switch between the two appliances.



Part Number: 00-00714-000

The selecting function is particularly useful when the microwave oven is the principal load. Power is always available to it, assuring that the customer can use the microwave whenever required and it's internal clock remains operating. While the microwave is in use, the function of the secondary load is postponed until the microwave is finished.

Features:

- Allows two 20 Amp loads to operate from a single 20 Amp breaker
- Automatically switches between the two loads as the demand requires
- 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.

AESS OPERATION

The underlying principle of the AESS is that certain appliances used in an RV, such as the microwave oven, hair dryer, or toaster need to always be available, when the owner wants to use them. These are "on demand" appliances. The use of others, such as the washer/dryer, water heater, or air conditioner can be delayed to a slightly later time with little inconvenience to the owner. These are postpone-able loads. Postponing the use of these appliances leaves enough power to operate the "on demand" appliances.

Power is supplied to the AESS from a single circuit breaker. An "on demand" load is connected as the primary load and a "shed-able" load is connected as the secondary load. When power is applied to the RV, it is supplied to both loads. When the primary load is turned off and at least 30 seconds has passed, power to the secondary load will be reapplied.



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Automatic Energy Select Switch

How Does It Work?

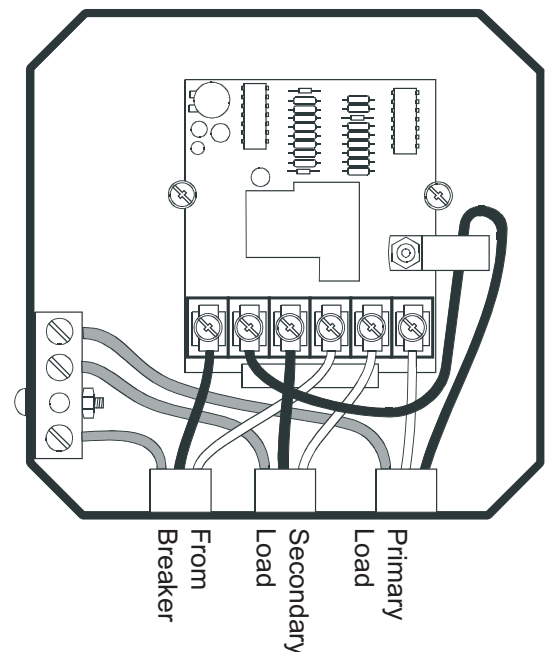
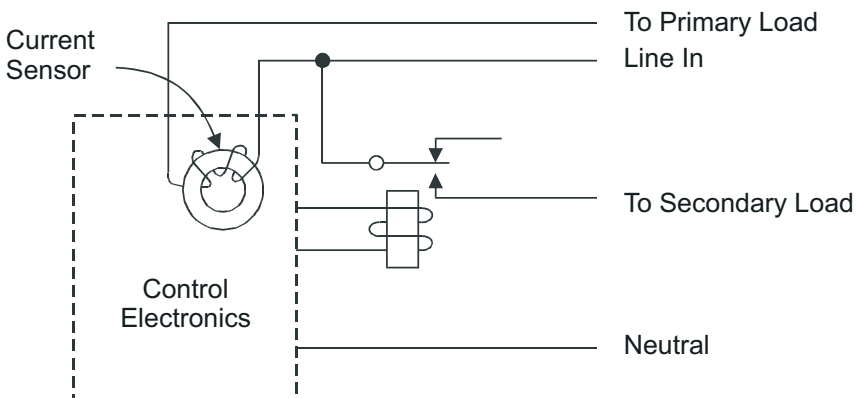
The **Automatic Energy Select Switch** controls power to two appliance loads. One appliance on the primary load is connected to the primary output and a shed-able appliance is connected to the secondary output. The output to the secondary load is carried through a relay.

When the shore cord is first plugged in, power flows through the **AESS** to the primary load and the relay is quickly closed, supplying power to the secondary load. When the primary load is turned off for more than 30 seconds, the power is re-applied to it.

Specifications:

Part Number:	00-00714-000
Ambient Temperature Range:	-40C to +40C
Operating Environment:	Out of direct weather
Delay before reapplying power:	30 seconds
Controlled Load:	One, OEM selectable
Relay Rating:	(1) AC - 1 HP, 20A, 120 VAC 60 HZ
U.S. Patents:	4499385, 4617472

Typical Wiring Diagram



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P/N 53-00714-000 Rev. A 083101



Automatic Energy Selector Switch

Description:

The Intellitec Automatic energy select switch (AESS) is designed to be used in RV's to share the power available from a single circuit breaker between two large loads (up to 20Amps.)

The AESS applies power to both the appliances until the primary load draws current. It then removes power from the secondary load to prevent the circuit breaker from being overloaded. This function is particularly useful for sharing power between the microwave oven and another sheddable or postpone-able appliances, such as the washer / dryer or water heater. Typically, this function was performed with selector switches, forcing the owner to manually switch between the two appliances.

Part Number:

 00-00714-000

Key Features:

- Allows two 20 Amp loads to operate from a single 20 Amp breaker
- Automatically switches between the two loads as the demand requires
- Minimizes circuit breaker tripping
- Eliminates manual appliance select switches



50A Smart Energy Management System

Description:

The 50 Amp Smart EMS consists of two elements, the display panel and the distribution panel. The display panel is wall mounted or on any suitable surface remotely from the distribution panel and convenient for the user. The distribution panel is a completely self contained 120/240 volt power distribution and energy management system and is intended to be used in recreational vehicles.

The distribution panel is housed in a sheet metal enclosure with removable front panel. It provides circuit protection for all the 120VAC loads in an RV and system of energy management to minimize the over loading and tripping of circuit breakers.

Part Number:

 00-00894-000 EMS Control (Not shown)
00-00903-150 EMS Display

Key Features:

- Monitor onboard AC power status
- Prevents circuit breaker overloads and subsequent tripping
- Automatically senses input voltage (120V or 240V)
- Controls six shed able loads

AUTOMATIC ENERGY SELECT SWITCH

Date datasheet created:
19/04/2013

Service Manual

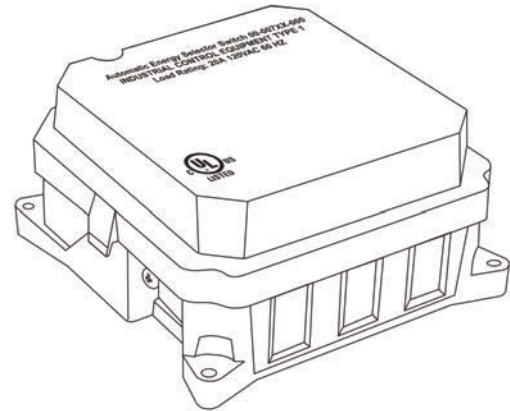
Intellitec's Automatic Energy Select Switch (AESS) is designed to be used in RVs to share the power available from a single circuit breaker between two large loads (up to 20 amps). The AESS applies power to both appliances until the primary load draws current. It then removes power from the secondary load to prevent the circuit breaker from being overloaded. This function is particularly useful for sharing power between the microwave oven and another "shed-able" or postpone-able appliances, such as the washer/dryer, or water heater. Typically, this function was performed with selector switches, forcing the owner to manually switch between the two appliances.

How it works

The AUTOMATIC ENERGY SELECT SWITCH (AESS) senses the current drawn by the primary or "on demand" load and controls the power to the secondary or "shed-able" load. When the power is initially applied, and the primary load is drawing less than 3 amps, power will be supplied to the secondary load after an initial 45 second delay. If the primary load draws more than 3 amps, power to the secondary load will be removed and held off until 45 seconds after the primary load is off.

Servicing the Unit

There are no serviceable components in this unit. If it is not working, replace the entire unit. To remove the cover from the unit, remove the single hex head screw at the center bottom of the cover. Before removing the screw, be sure all power is off. Gently lift the latches on either side of the cover and remove it. The connections to the unit will all be visible. (See Figure 1.) Remove all six wires from the board. The board can be removed from the box by removing the two mounting screws.



Part Number: 00-00714-000

WARNING:

The Automatic Energy Select Switch operates from shore power cord. Lethal voltages are present inside this box. Before removing the cover, be sure the coach is disconnected from shore power and the generator is not operating. All servicing of this box should be done only by a qualified Service Technician.

Tools required: Line voltage test light, AC voltmeter

Hi-POT Test

At the installers preference, to assure there are no potential shorts, a Hi-Pot test can be performed on the installation. To do this, the black lead from the Secondary Load must be moved to the moved to the terminal with the black lead to the primary load.

The Hi-Pot test should now be conducted in accordance with standard procedures for the tester being used. Assuming the system passes, the cover should be taken off and the lead moved back to its normal connection point. If not, the problem must be corrected before proceeding further.

AUTOMATIC ENERGY SELECT SWITCH

Date datasheet created:
19/04/2013

Trouble Shooting

The Select Switch is a simple circuit which senses the current of the primary load and utilizes a relay to switch the secondary load, if the primary load draws more than 3 amps.

Problem

Neither load will operate.

Possible Cause/Solution

The circuit breaker in the distribution box for the loads is tripped. Reset the circuit breaker.

Both loads are turned off. Check the switch settings of the loads.

Problem

The secondary load will not operate.

Possible Cause/Solution

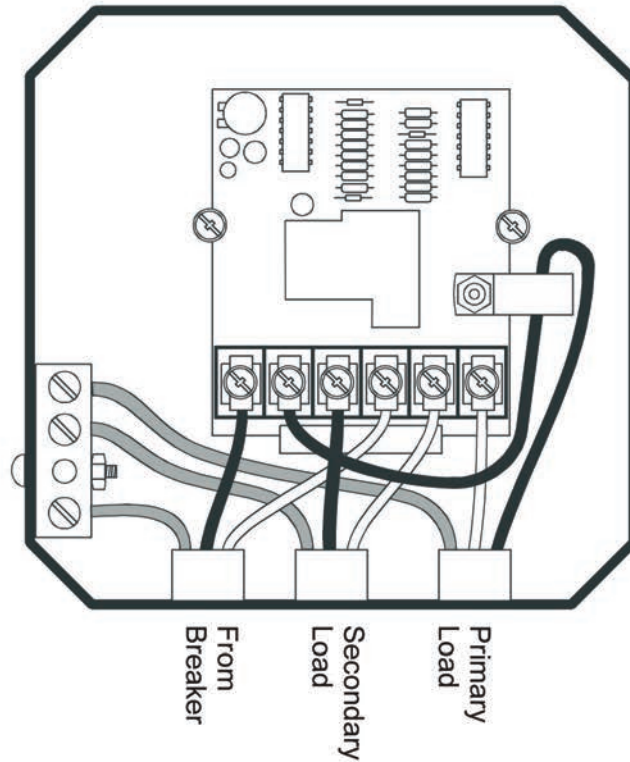
The secondary load may be turned off. Check the switch settings of the secondary load.

The AESS is defective.

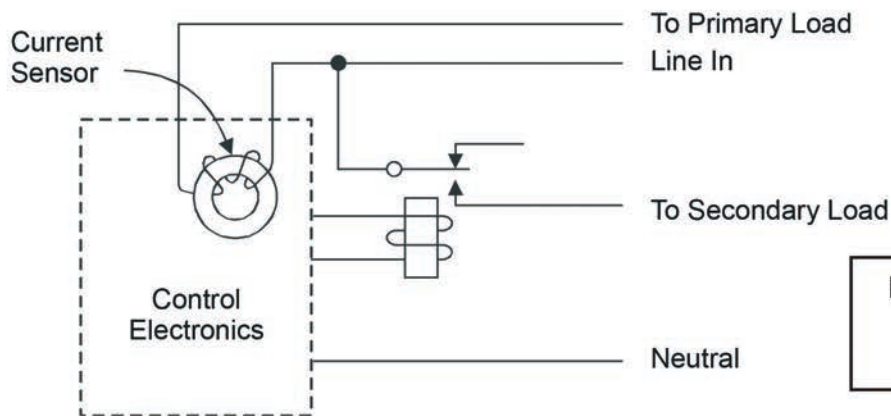
For further information on this product,
please contact Intellitec.

AUTOMATIC ENERGY SELECT SWITCH

Date datasheet created:
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View with
cover removed
Figure 1



Equivalent
Circuit
Figure 2