



2010 43QGP Allegro Bus

3/4/2013

81-4 – FYI – AC-HP COMMUNICATIONS AND ELECTRICAL SYSTEM.

This FYI file has gotten larger and more complex than I thought would happen when it was first started. After more thought, I decided to further break down Tiffin's design on how the Auto Generator Start System is wired and how that wiring determines the outcome of starting the generator based on DEMAND for either AC or HP operation, when there is no shore power connection and the AGS has been programmed to start the generator based on a DEMAND (call for AC or HP operation).

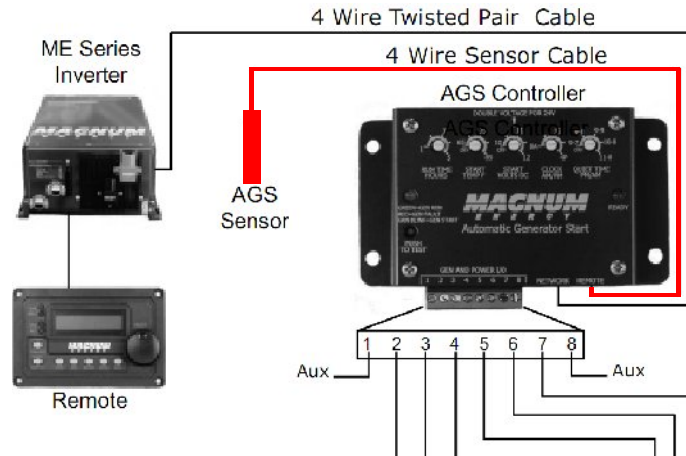
To the best of my knowledge and research our Magnum AGS system can be wired and configured to operate four different options.

OPTION 1, this method of wiring does not incorporate an inverter the AGS is connected to a wall switch which is connected to the AGS by way of the remote port.

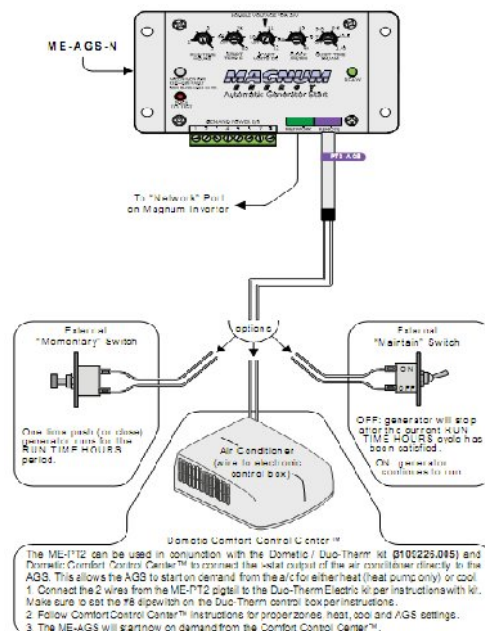


A thermistor is located on the back of the above AGS switch it is used to sense the internal temperature of the RV. Correct placement of this switch is critical to the operation of the AGS, too near to a heat or cold producing appliance will affect the thermistor and its control of the AGS. This thermistor sends the AGS a signal as part of the auto start process to start the generator. Based on my research Tiffin DOES NOT use this method unless it is used in coaches without an inverter installed.

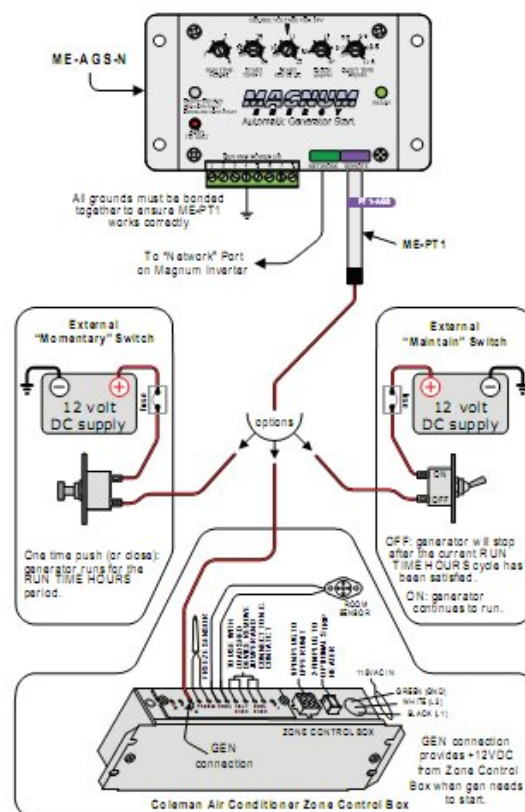
OPTION 2, a four wire cable is installed between the AGS module's remote port and the interior of the RV. A location where the internal coach temperature is least effected by heat or cold from appliances, etc. The thermistor is most often located behind the wall thermostat. The cable has a RJ-11 phone connector on the AGS remote end and a thermistor on the internal coach end, the actual sensor is located at the end of the cable, noted in RED below as the "AGS Sensor".



OPTION 3, this option uses the Magnum Energy PT-2 (two wire pigtail) adapter it is connected to the magnum energy auto generator start (AGS) controller it allows the connected generator to be started by an external switching device. The PT-2 adapter is normally used in conjunction with the Dometic/Duo-Therm kit (3109226.005) and Dometic Comfort Control Center to connect the thermostat's output of the AC/HP directly to the AGS modules remote port. As seen below this adapter has a minimum of three wiring options within this option 3.

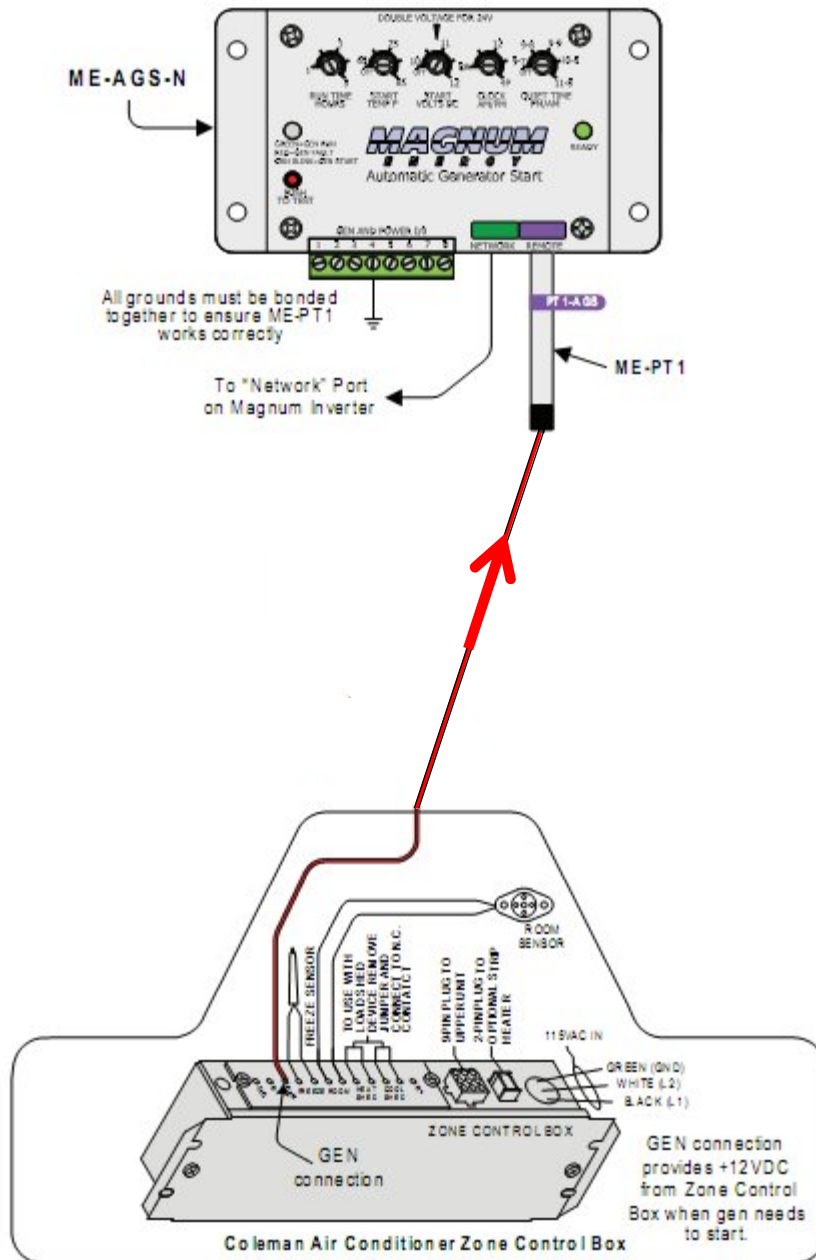


OPTION 4, this option is the way Tiffin wired our coach. The PT-1 (a one wire pigtail) adapter is connected to the Magnum Energy Auto Generator Start (AGS) controller to allow the connected generator to be started by an external switching device. The PT-1 is connected between the AGS remote port and the GEN connection on each of our three AC/HP control boxes. The adapter has a RJ-11 connector on one end which plugs into the AGS's remote port the adapter connects to a single red wire. The RED wire is connected in some manner to a hidden box or splice to split the one RED wire into three wires, those three wires are each connected to one of the AC/HP control boxes GEN terminals located on the outside of the AC/HP control box. With the AGS set to start the generator by ANY one or ALL AC/HP's DEMAND for service from a temperature sensor which is connected to the zone control box along with the SIG, B- and R+ inputs, the combination of those four inputs sends a 12 VDC output to the AGS module from the GEN terminal on the AC/HP zone control box. The following pictorial demonstrates the PT-1 connection between the AGS modules remote port and the Coleman Air Conditioners Zone Control Box.



As seen above this option also contains a couple of other wiring options, those options control of the length of time the generator will run after receiving the generator start signal.

Tiffin decided to utilize one wiring option with the PT-1 as explained above, that wiring option is shown in the following pictorial.



AC/HP Connection to Start Generator for AC/HP Operation

GEN output - Coleman AC Zone Control Box > ME-PT1 > ME-AGS-N

While AC Shore Power is connected to the Magnum System the (AGS) Auto Gen Start feature **WILL NOT START THE GENERATOR**. I am currently working on a design to shut down the AUTO STARTED GENERATOR when AC shore power has been restored. Currently the generator once started by the AGS feature will continue to run until the “Run Time Hours” setting in the Magnum Remote has expired.