Model 1101A Programmable Energy Saver Module (PESM)

DESCRIPTION

The Model 1101A Programmable Energy Saver Module (PESM) is a temperature sensor and control relay in a small enclosure that mounts near a central heating, ventilation, and air conditioning (HVAC) system thermostat. The PESM allows the automation system to read the temperature of the area that the HVAC system controls. The relay in the PESM is used to break the 24V RED wire between the thermostat and the HVAC system. When the automation system is in setback mode and the actual temperature is between the LOW and HI setpoints, the relay energizes to break the 24V red wire; hence, the HVAC system will no longer operate.

In heating season, when the actual temperature falls below the LOW setpoint, the automation system turns the relay in the PESM off, thus restoring power to the thermostat, allowing the thermostat to heat as it normally would under the control of the thermostat. The PESM will cycle the thermostat on and off to maintain the LOW setpoint.

In cooling season, when the actual temperature rises above the HI setpoint, the automation system turns the relay in the PESM off and the thermostat will cool as it normally would under the control of the thermostat. The PESM will cycle the thermostat on and off to maintain the HI setpoint.

The Red LED on the PESM will illuminate when the PESM is overriding the thermostat. The Red LED will be off when the thermostat is working normally.

The PESM doubles as a freeze sensor, which can cause the controller to dial out in the event of a freeze condition or furnace failure.

If the PESM is disconnected from the automation system, the relay will not energize and the HVAC system will operate normally, under the control of the thermostat.

INSTALLATION

1. Each PESM requires one security zone input and one output. The PESM zone inputs corresponds to controller outputs. When configured as a PESM Zone Type (Type 80), the zone and unit is used as a pair to read temperature and control the setback temperature of the house.

2. Run a 4-conductor wire from the controller to each PESM. Connect as shown in FIGURE 1.

3. The PESM should be mounted on an interior wall, preferably close to the HVAC thermostat, using the supplied wall anchors and screws. Orient the PESM as shown in FIGURE 1 for the optimal temperature reading.

4. Run a 2-conductor wire from the PESM to the thermostat. Connect the PESM between the RED wire going to the thermostat and the RED terminal on the thermostat.

5. Program the zone type for each PESM as a Type 80, Energy Saver. It may also be programmed as a Temperature (Type 82), or Temperature Alarm (Type 83) for special applications.

SPECIFICATIONS

Dimensions: 2.75W x 2.75H x 1D

Temperature Range: 0^{o} F - 120^{o} F

Current Consumption: 14mA maximum

REFER TO CONTROLLER'S INSTALLATION MANUAL FOR COMPLETE INSTALLATION INSTRUCTIONS

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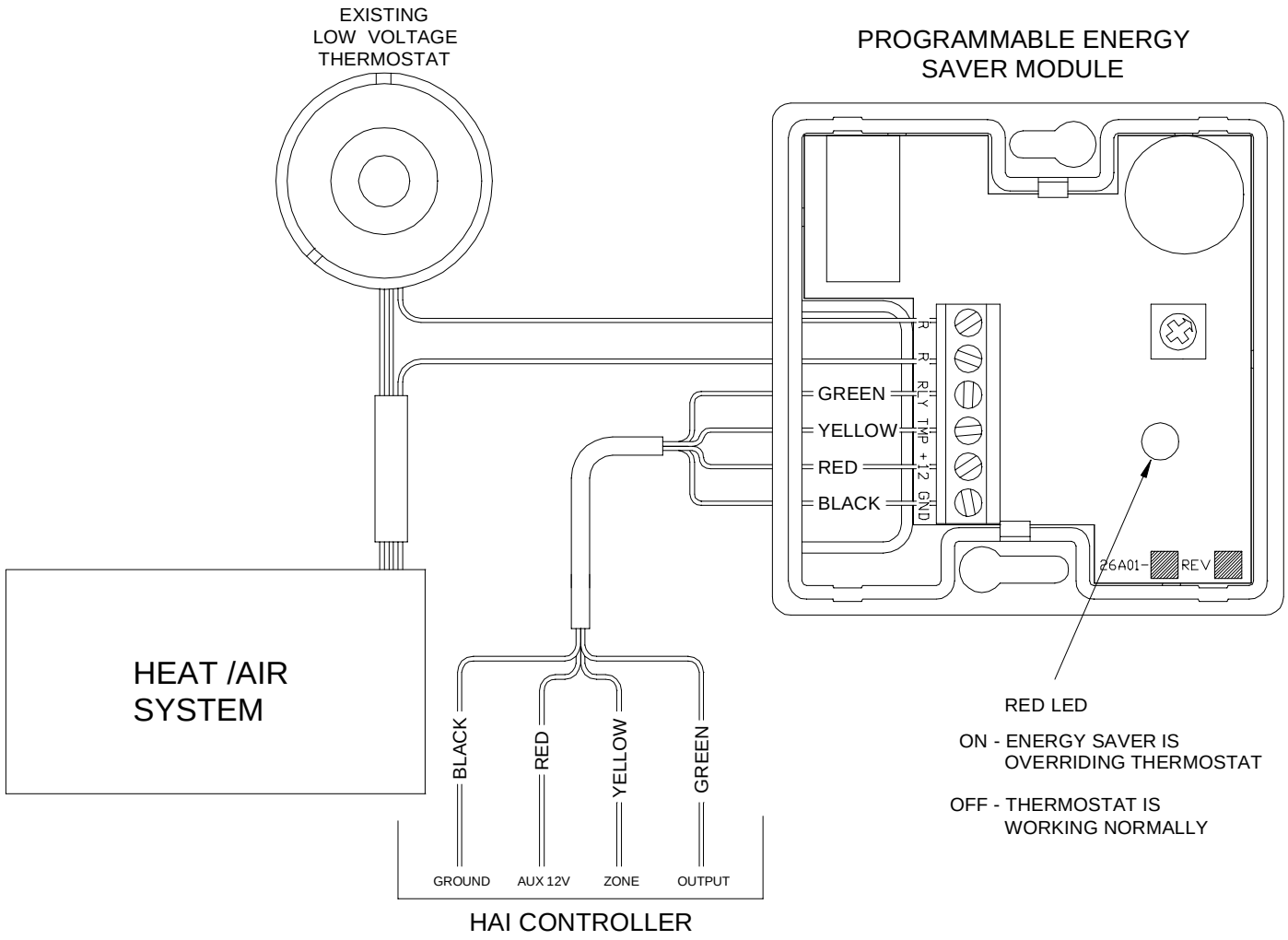

FIGURE 1 – PESM CONNECTIONS