

EPOXY CLOSET TEMPERATURE CONTROL

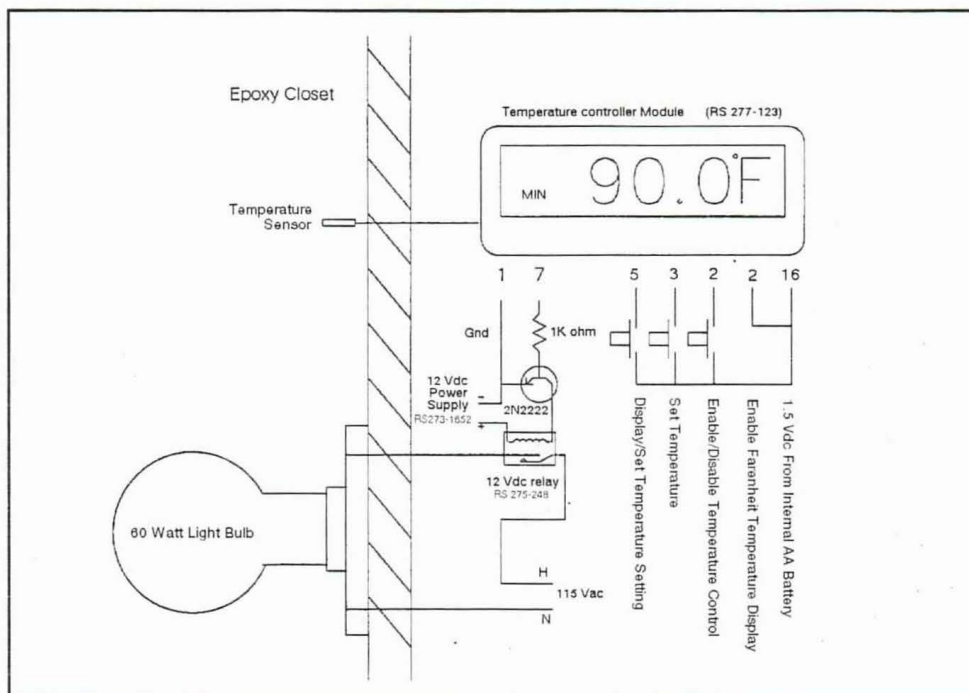
By Steven Willhoite

EAA 359601
2916 Calle Derecha
Santa Fe, NM 87505

One of the first construction projects I undertook before starting my Cozy Mark IV composite airplane was to build an insulated closet for my epoxy ratio pump. Ideally, the epoxy and pump should be maintained at a constant 90 degrees F. temperature for the proper viscosity. I put a 60 watt light bulb inside the closet attached to a light dimmer for adjustment, but soon found out that I was constantly making minute adjustments to the dimmer control to maintain the desired temperature.

My next stop was at Radio Shack where I picked up one of their digital temperature control modules for \$20 (P/N 273-123). The digital temperature control module is powered by a single AA battery and has a large LCD display which displays the current temperature at the connected probe with a 0.18 degree F. resolution. With three normally open pushbutton switches you can display and set a minimum temperature which the module will regulate via a control line to an external circuit.

For the external control circuit I used a 12 Vdc power supply (P/N 273-1652), 12 Vdc relay (P/N 275-248) a 2N222 transistor and a 1K ohm resis-



tor as depicted in the schematic diagram. Mount the loose parts on a small pre-drilled circuit board and then mount the circuit board and the temperature control module in a small box which can be attached to the top of the epoxy closet. Mount the temperature sensor probe inside the closet at about the same height as the bottom of the epoxy reservoirs and the light bulb to the top of the closet to keep it out of the way. Use wire nuts inside the temperature control enclosure to

join all the 115 Vac wiring.

I have been operating my closet for over a year now and the temperature inside the closet never varies by more than 2 degrees F. (unless I leave the door open) despite the fact that the temperature in my garage varies by 40 degrees F. on some days. Due to the 0.75 inch Celotex insulation on all sides of the closet, the 60 watt bulb is on only a small portion of the time, making the closet very economical to operate.

Readers are invited to submit entries to EAA, Hints For Homebuilders, Att: Golda Cox, EAA Aviation Center, P.O. Box 3086, Oshkosh, WI 54903-3086. Entries will be reviewed by a panel of EAA judges. Readers whose hints are published in any EAA magazine will be awarded one of three monthly prizes by Snap-on Tools - a 3/8" Drive Socket Wrench Set, a 1/4" Drive Socket Wrench Set or a Nine-piece Long-Handle Combination Wrench Set. Members are also invited to submit hints of an electrical nature. Any hint used will receive a Fluke Model 23-2 Multimeter with Holster from the John Fluke Mfg. Co., Inc. The contest will run from August through July of each year with a Grand Prize of a Snap-on Tools KR657 Roll Cab and KR637 Top Chest being awarded the best entry for the year. A Grand Prize will also be awarded by the John Fluke Mfg. Co. These awards will be presented during the EAA Convention. Our thanks go to Snap-on Tools and John Fluke Mfg. Co. for providing these awards.

