Sutrak Temp-Simulator

The intent of this cable is to input temperature values into he controller to force the hvac unit into various modes.

There are several versions of this wiring schematic and the changes have to do with what potentiometers to use and what trimming resister values to use. Ideally the sweep should take the controller from 30\*ish on the low side to 95\*ish on the high side.

Trimming could be done by potentiometers themselves but they would have to be sealed after they are set.

I have also toyed with the idea of a fixed duct air value as it does not decide anything.

Parts

1. Potentiometers
   1. Potentiometer 1 =
      1. 50k pot ¾ turn wire wound
   2. Potentiometer 2 =
      1. 50k pot ¾ turn wire wound
2. Knobs for potentiometers
3. Resisters
   1. R1=
   2. R2=
   3. R3=
   4. R4=
4. Case
   1. https://www.homedepot.com/p/Commercial-Electric-1-2-in-Gray-1-Gang-3-Holes-Non-Metallic-Weatherproof-Box-WSB350PG/300851060
5. Case lid
   1. https://www.homedepot.com/p/BELL-N3R-Blank-Flat-Plastic-Gray-1-Gang-Weatherproof-Electrical-Outlet-Cover-and-Light-Switch-Cover-for-Wall-Outlet-PBC100GYB/204125641
6. Cable gland
   1. 1
   2. https://www.homedepot.com/p/Halex-3-8-in-Flexible-Metal-Conduit-FMC-Combination-Clamp-Connector-5-Pack-20570/100186543
7. Cable
8. Connector
   1. – CPC-6Trimet # 285-2141X
   2. AMP 206037-1 / 0544
      1. <https://www.te.com/usa-en/product-206037-4.datasheet.pdf>
   3. Pins for connector plug 245-2119X
   4. Backshell
      1. <https://www.digikey.com/en/products/detail/te-connectivity-amp-connectors/1-206070-1/5263568>
      2. 1-206070-1
9. Silicon potting compound

Assembly

1-this box gets milled down to just above the inlet holes, so that it fits in the hand better,

1A-the rear port blank gets milled off, this provides clearance for the potentiometers and access for silicon potting.

2-then the lid holes get redrilled

3-the 4 mounting wings get cut off and smoothed

**Wiring Schematic**

