AURA: TEAM 4

- Luke Behling
- Matt Kieckhafer
- Caleb Romenesko
- Max Nemer
- Garry Jean-Pierre
AURA: THE LAST WINDOW FAN... YOU'LL EVER NEED!

You get peace of mind knowing that wherever applied, your room will be just how you like it; breathing easy, comfortable, air year round.

• Smart Mode to monitor and maintain set point conditions automatically

• Two Reversible 100CFM PWM controlled DC fans provide automatic multilevel bi-directional room air flow control governed by aggregated zone humidity and temperature data

• 60dB of noise providing comfort no louder than a normal conversation

• Available in US and Canadian markets
AURA PRODUCT REQUIREMENTS

• Cost
  • Sale Price: $300
  • Component Cost: $100
  • Assembly & Test Costs:
    • Assembly: $50
    • Test: $25

• Environment
  • Commercial/Residential Indoor use
  • Operating Temp Range: 0 thru 60 degrees Celsius
  • Operating Humidity Range: 0 – 100 % Relative Humidity

• Power Input(s)
  • Residential AC Power: 102-132 VAC @ 5Amps Max

• Major Functions, Quantities Measured, Displayed
  • Programmable and ‘Smart Mode’ control options
  • Temperature
    • Displayed to user on HMI
    • Accuracy: within 2 degree Celsius
  • % Relative Humidity
    • Displayed to user on HMI
    • Accuracy: within 2% Relative Humidity
BLOCK DIAGRAM

120V RMS (AC)

D. Power Supply

A. MCU

B. HMI

C. Sensors

E. H Bridge

Pump

Door Solenoid

+5v DC

+12v DC

+5v DC

SPI

Solenoid enable

FET gate signals

Power PWM Signal

Pump enable

+5v DC

SPI

+5v DC

+12v DC

Team 04

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C. Matt Keickhafer
D. Garry J-P
E. Max Nemer