1. Outline
The circuit shown below provides a cost effective solution for wiring a current switch that monitors the compressor operation ON/OFF status and energizes the coil of a relay which in turn close the contacts and provide line voltage to the duct fan. The duct fan is required to introduce fresh (outside) air for ventilation.

2. Application
A third party current sensor switch with a built-in relay was used in this application. The current sensor may be installed around one of the compressor line voltage wires (Red, Black or White).

3. Wiring diagram

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    +-----------------+        +-----------------+        +-----------------+
    |                 |        |                 |        |                 |
    | Current Sensor  |        | Built in Relay  |        | Duct fan booster|
    |                 |        | IPM             |        | Compressor      |
    +-----------------+        +-----------------+        +-----------------+
    | 24V DC          |        | N.O.            |        | 115V AC         |
    +-----------------+        +-----------------+        +-----------------+
    | N.O.            |        | N.O.            |        |
    +-----------------+        +-----------------+        +-----------------+

```
4. **Components utilized**
Current sensor with built-in relay specifications:
Split Core Fixed Threshold Current Status Sensor with Command Relay and Switching Power Supply.
*FGAI Fresh Air Kit Part # KHRS940-25*

5. **Recommended Fan size.**
Duct and Fan are field supply. A fan capable of generating 15 CFM at a static pressure of approximately .26 inches W.C.

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**Wiring**

- Recommended wire size- 14 AWG.
Current Sensor Installation

- Install the current sensor around one of the compressor line voltage wires.
- Tuck sensor into the clearance behind the compressor wire molex plug.
- Secure the current sensor with a zip tie.
• 4 zip ties are needed for correct installation.
• Secure the current sensor wires with all four zip ties according to the arrows. Do not tie around any of the copper lines.
• Cut the ends of the zip ties.
CEILING CASSETTE
OUTSIDE (FRESH) AIR INTAKE

**FRESH AIR**

Fan Static Pressure Requirements:
Static pressure required at Cassette = .24 in W.C.
25 ft. 4" duct + intake=45ft. TEL x .04/100 = .018 in W.C.
TOTAL = .258 in W.C.

Fan Selection:
Select fan to deliver 15 CFM @ approximately .26 in W.C.
Static pressure requirements will vary with duct length and inlet conditions.

**NOTE:** Filter for outside air required. Add filter static pressure loss to static pressure requirements above.