Taco Bell Interlock Control Box

The intent of the Control Box is to activate or deactivate the following:

- Kitchen Lighting
- Exhaust hood exhaust fan
- Exhaust hood lighting
- Make up air / replacement air fan
- Rest room / cook line exhaust fan
- Dining room lighting

Sequence of Operation

Occupied Mode

A Team Member turns on the kitchen lights by flipping a wall switch "up" in the manager's office, placing the kitchen in "Occupied" mode. The switch is installed inverted in the office so that the normal action of flipping the switch up breaks power to the lighting contactor in the Control Box. The contacts in the lighting contactor revert to their normally closed position. This allows power to proceed to the following:

- The restroom and cook line exhaust fan marked "EF-2"
- A light switch in the manager's office for the dining room lights
- The kitchen and rest room lights
- A timer relay for the exhaust hood motor starter marked "EF-1" and a relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2.

The timer relay for the exhaust hood motor starter immediately activates motor starter EF-1 and relay R1. When activated, motor starter EF-1 contacts close providing power to the exhaust hood exhaust fan. It also closes auxiliary contacts that turn on the exhaust hood lights. Activation of relay R1 causes the contacts for RTU 1 and RTU 2 to close, returning 24 volts to the evaporator fan controller of each respective unit.

Unoccupied Mode

A Team Member turns off the kitchen lights by flipping a wall switch "down" in the manager's office, placing the kitchen in "Unoccupied" mode. The switch is installed inverted in the office so that the normal action of flipping the switch down provides power to the lighting contactor in the Control Box. The contacts in the lighting contactor open from their normally closed position. This breaks power to the following:

- The restroom and cook line exhaust fan marked "EF-2"
- A light switch in the manager's office for the dining room lights
- The kitchen and rest room lights
- Control power to timer relay for the exhaust hood motor starter marked "EF-1" and a relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2.

The timer relay for the exhaust hood motor starter continues power to motor starter EF-1 and the relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2 for fifteen minutes after the loss of power to the timer. Motor starter EF-1 continues to provide power to the exhaust hood exhaust fan. It also keeps closed the auxiliary contacts that turn on the exhaust hood lights. Power also continues to relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2. After fifteen minutes without power to the timer, the timer opens contacts to EF-1 motor starter, the auxiliary hood lighting contacts and relay (R1) for the make up air replacement fan (evaporator fan) in RTU 1 and RTU 2. This drops power to the exhaust fan and the hood lights. Relay R1 opens its contacts interrupting the 24 volts returned to RTU 1 and RTU 2 evaporator fan controllers. RTU 1 and RTU 2 evaporator fans may continue to operate if their respective zone controllers are calling for evaporator fan operation.

In the event of a rise in temperature above 85 degrees in the exhaust hood, control voltage will be sent to the timer relay for the exhaust hood motor starter which will immediately activate motor starter EF-1 and relay R1. When activated, motor starter EF-1 contacts close providing power to the exhaust hood exhaust fan. It also closes auxiliary contacts that turn on the exhaust hood lights. Upon activation of relay R1, the contacts for RTU 1 and RTU 2 close, returning 24 volts to the evaporator fan controller of each unit.

When in Unoccupied mode and upon a drop in temperature below 85 degrees in the exhaust hood, control voltage to the timer delay is dropped however the timer relay for the exhaust hood motor starter continues power to motor starter EF-1 and the relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2 for fifteen minutes after the loss of control power to the timer. Motor starter EF-1 continues to provide power to the exhaust hood exhaust fan. It also keeps closed the auxiliary contacts that turn on the exhaust hood lights. Power also continues to relay (R1) for the make up air replacement fan (evaporator fan) in RTU 1 and RTU 2. After fifteen minutes without power to the timer, the timer opens contacts to EF-1 motor starter, the auxiliary hood lighting contacts and relay (R1) for the make up air replacement air fan (evaporator fan) in RTU 1 and RTU 2. This drops power to the exhaust fan and the hood lights. Relay R1 opens its contacts interrupting the 24 volts returned to RTU 1 and RTU 2 evaporator fan controllers. RTU 1 and RTU 2 evaporator fans may continue to operate if their respective zone controllers are calling for evaporator fan operation.

External Operations Not Part Of The Control Box Operation But Required To Be Installed

The following operations should take place between the package units and various components:

- Control voltage for RTU 2 shall pass through contacts in the fire suppression system for the exhaust hood so that RTU 2 evaporator fan shuts down upon an activation of the fire suppressant into the hood. The system shall be wired directly between the fire suppression system and RTU 2.
- A remote smoke detector system featuring testing, annunciation and remote unit reset shall be installed in the manager's office for each RTU. The system shall be wired directly between each RTU and its respective testing, annunciation and reset device.

CONTROL BOX

CONTROL BOX TO BE PURCHASED AND INSTALLED BY G.C. THE CONTROL BOX INCLUDES THE BOX AND ALL COMPONENTS SHOWN WITHIN THE BOX AND INTERNAL WIRING BETWEEN THE COMPONENTS.

AIR CARE EXPERTS

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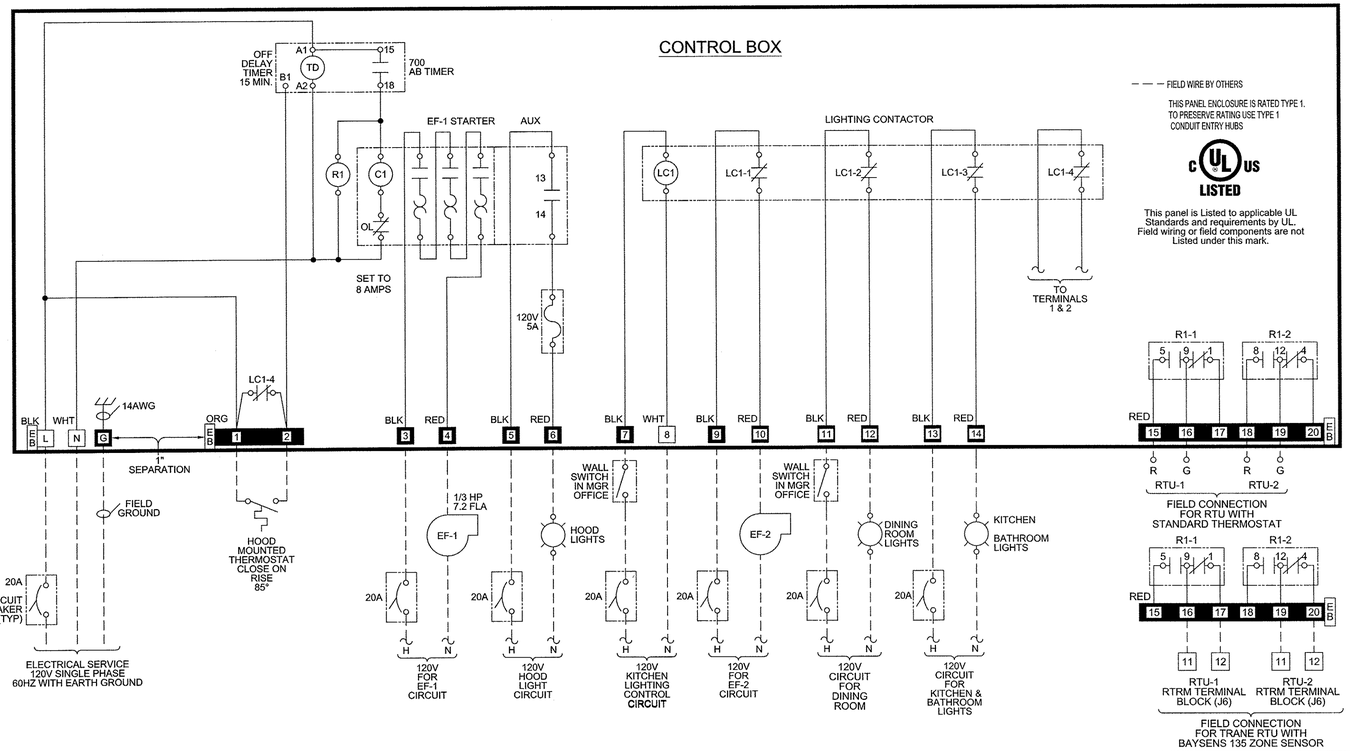
FAX: 949 770 5885

EMAIL: CMCCABE@ACE-IAQ.COM

BE PREPARED AT TIME OF ORDER OR QUOTE TO SPECIFY THE MANUFACTURER OF THE PACKAGE UNITS.



LIGHTING CONTROL RELAY (REAR) AND HOOD AND HVAC INTERLOCK DETAIL N.T.S. | 2

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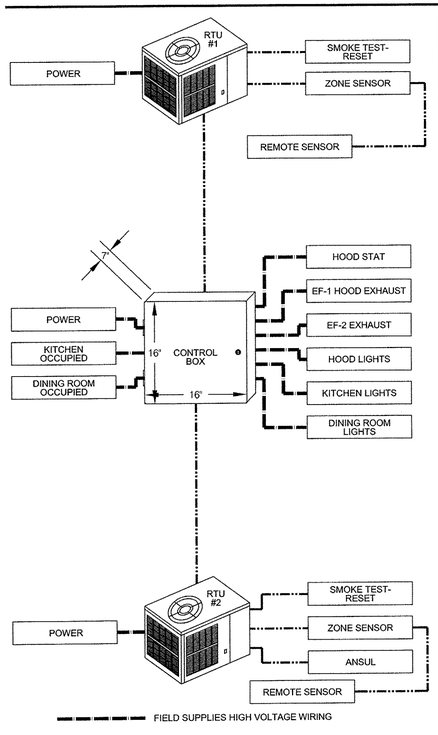
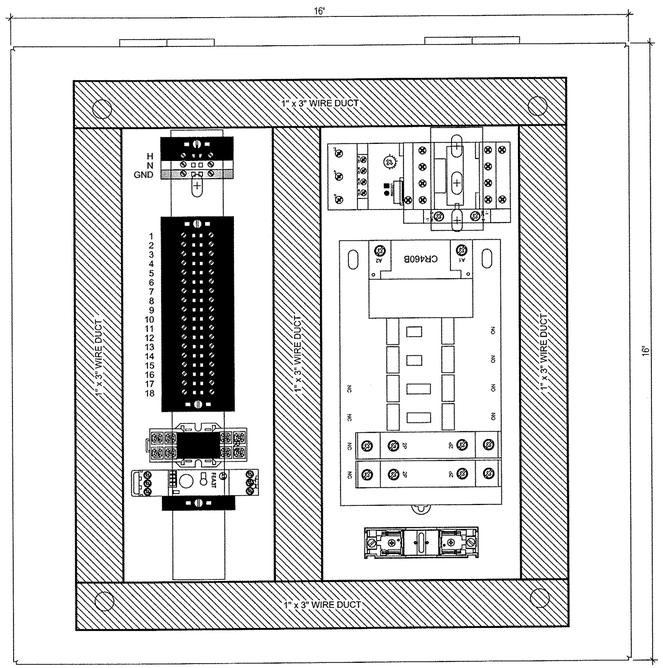
DeVita & Associates Inc. Project: 15002-30
Drawn By: RPB Checked By: RAG



COMPONENT RELATIONSHIP N.T.S. | 20



FAN & LIGHT CONTROL BOX N.T.S. | 12

GREENGATE #PPS-5 PHOTOSENSOR TO BE PROVIDED BY CONTRACTOR. MOUNT ON ROOF WITH UNOBSTRUCTED VIEW TO THE NORTH.

REFER TO GREENGATE MANUFACTURER'S PROGRAMMING INSTRUCTIONS FOR INFORMATION REGARDING PROGRAMMING.

GREENGATE #LK16-120/277-S1-L0-M0-T1 LIGHTING CONTROL PANEL WITH #LK-LB LOGIC BOARD FURNISHED BY OWNER FOR INSTALLATION BY CONTRACTOR

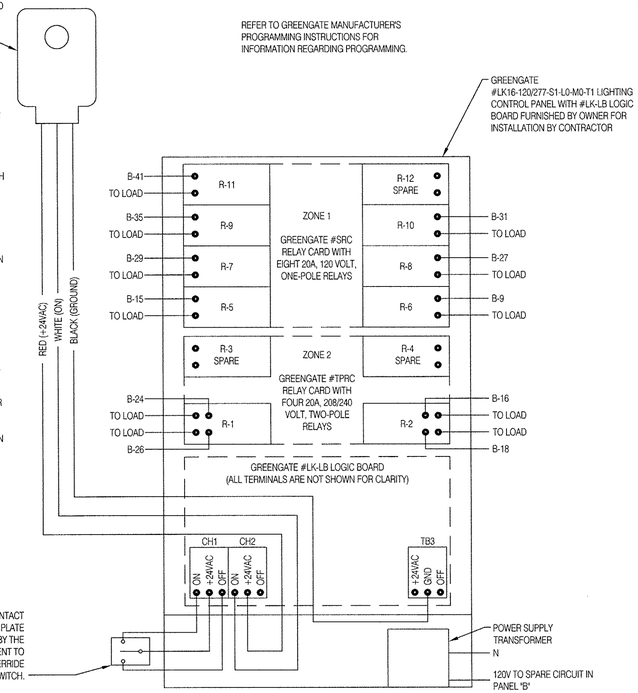
CALIBRATION AND PROGRAMMING:
ADJUST PHOTOSENSOR TO ACTIVATE WHEN AMBIENT LIGHT APPROXIMATES DUSK. COORDINATE WITH OWNER'S REPRESENTATIVE.

PROGRAM TIMECLOCK AND RELAY ZONE 1 FOR THE HOURS OF OPERATION DESIRED BY THE OWNER. COORDINATE WITH OWNER'S REPRESENTATIVE.

SEQUENCE OF OPERATIONS:
ON: LIGHTING IN BOTH ZONE 1 AND ZONE 2 SHALL TURN ON WHEN BOTH THE TIMECLOCK AND PHOTOSENSOR AGREE THAT LIGHTS SHOULD BE ENERGIZED.

OFF: LIGHTING IN ZONE 1 SHALL TURN OFF WHEN EITHER THE TIMECLOCK CALLS FOR THE LIGHTS TO BE OFF OR THE PHOTOSENSOR INDICATES EXTERIOR LIGHTING LEVELS ARE ADEQUATE. LIGHTING IN ZONE 2 SHALL TURN OFF 30 MINUTES AFTER ZONE 1 HAS TURNED OFF TO PROVIDE PARKING LOT LIGHTING TO ALLOW STAFF TO LEAVE SAFELY.

OVERRIDE: THE MOMENTARY CONTACT OVERRIDE SWITCH SHALL TURN LIGHTS ON OR OFF REGARDLESS OF WHETHER TIMECLOCK OR PHOTOSENSOR ARE CALLING FOR LIGHTS TO BE ON OR OFF. WHEN THE OVERRIDE IS USED TO TURN LIGHTS ON, THE TIMECLOCK SHALL TURN LIGHTS OFF AGAIN WITHIN AN HOUR AND THE OVERRIDE FUNCTION SHALL BE DEACTIVATED. WHEN THE OVERRIDE IS USED TO TURN LIGHTS OFF, THE NEXT SCHEDULED TIMECLOCK OR PHOTOSENSOR EVENT EVENT SHALL DEACTIVATE THE OVERRIDE FUNCTION AND THE SYSTEM SHALL RETURN TO NORMAL FUNCTION.



EXTERIOR LIGHTING CONTROL RELAY N.T.S. | 4

STATE OF MAINE
CHUCK MENCKEN
No. 10490
REGISTERED PROFESSIONAL ENGINEER
7-8-16

CONTRACT DATE:	07.06.2016
BUILDING TYPE:	CONVERSION
PLAN VERSION:	FEBRUARY 2015
SITE NUMBER:	XXX-XXX
STORE NUMBER:	XXXXX

TACO BELL

1363 WASHINGTON AVE.
PORTLAND, ME

TACO BELL
CONVERSION
LIVE MAS - MEDIUM40

ELECTRICAL DETAILS

E6.0

PLOT DATE: