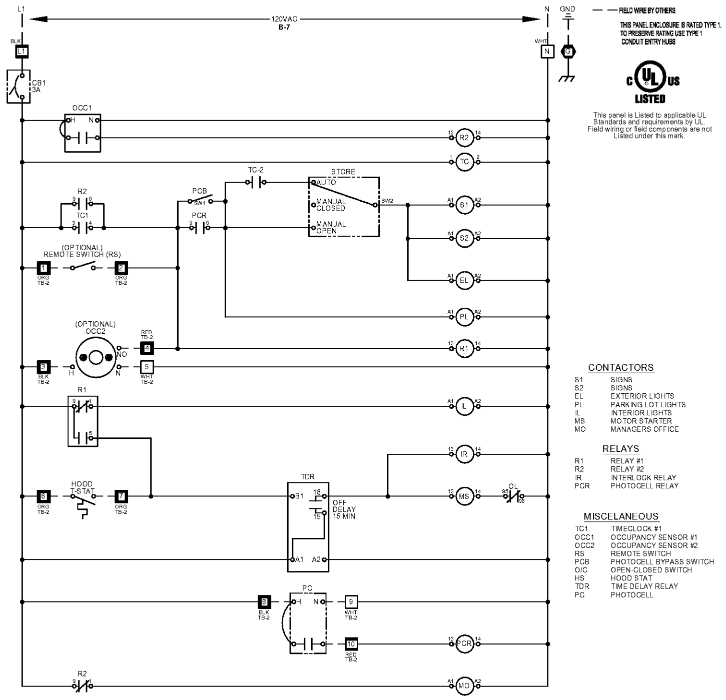

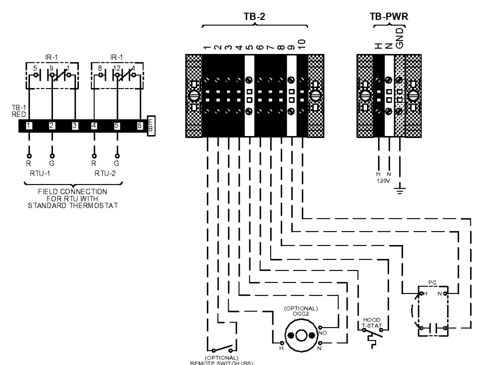

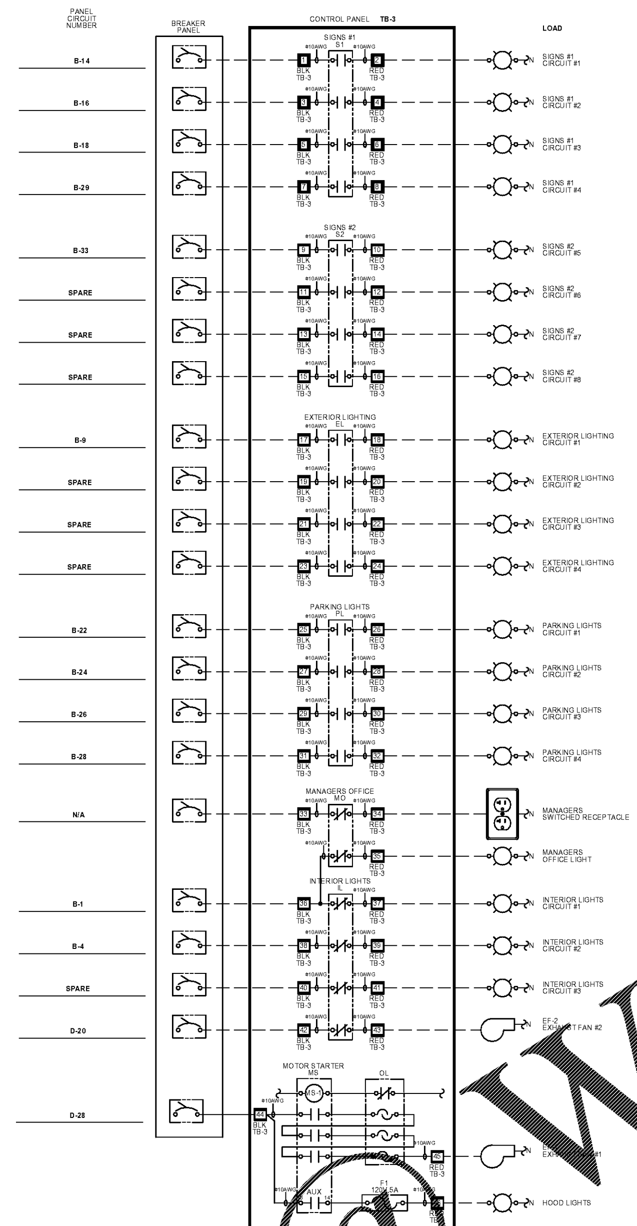

CONTROL BOX

Taco Bell's supplier of the Control Box is Air Care Experts. The Control Box includes the box and all components shown within the box and internal wiring between the components. Control box to be purchased and installed by GC unless noted otherwise.

Primary Contact: Chuck McCabe

Phone: 949 770 2222

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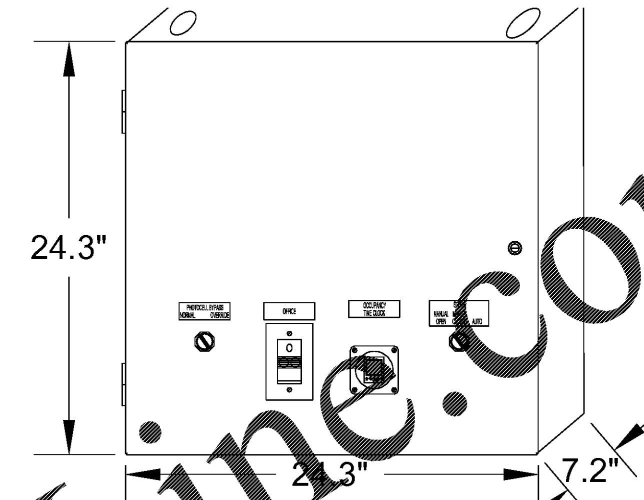
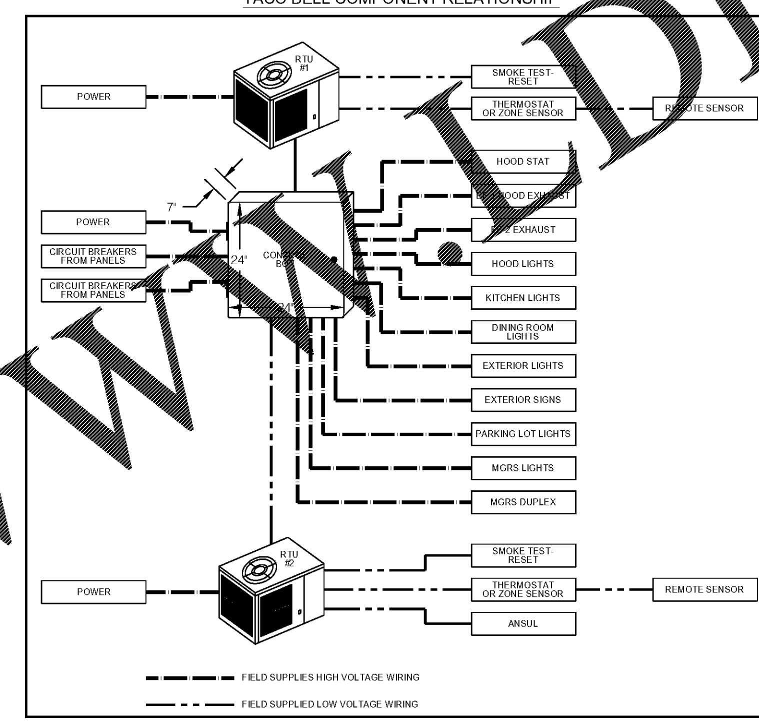
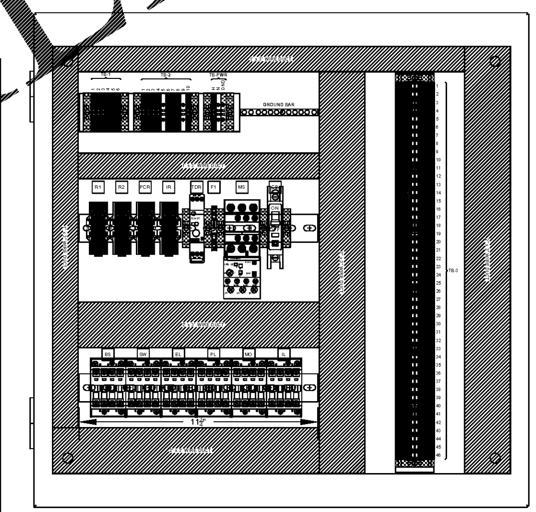


PANEL FRONT

TACO BELL COMPONENT RELATIONSHIP





SUBPANEL LAYOUT

Taco Bell BMS Control Box

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

- Kitchen Lighting
- Dining Room Lighting
- Exterior Lighting
- Exterior Signs
- Exhaust hood exhaust fan
- Exhaust hood lighting
- Make up air / replacement air fan
- Rest room / cook line exhaust fan
- Managers Office lighting & at least one duplex outlet

Sequence of Operation

Occupied Mode

A Timeclock in the Control Box is programmed to place the building in Occupied mode 15 minutes before the first Team Member arrives on the premises. This allows power to proceed to the following:

- The photocell for the Parking Lot Lights and Open/Closed switch
- The restroom and cook line exhaust fan marked "EF-2"
- Light switches 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 (IR) 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 IR. 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 IR causes the contacts for RTU 1 and RTU 2 to close, returning 24 volts to the evaporator fan controller of each respective unit.

Occupied mode may also be invoked when optional Occupancy sensors and or an Occupied switch located in the managers office is activated or placed in the Occupied positon.

Unoccupied Mode

The Timeclock in the Control Box is programmed to place the building in "Unoccupied" mode at a time provided by Operations.

This removes power for the following:

- Photocell for the Parking Lot Lights and the Open/Closed switch
- The Interior lights
- The R-1 relay
- The exhaust fans

The timer relay for the exhaust hood motor starter continues power to motor starter EF-1 and the relay (IR) 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 (IR) 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 (IR) 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 IR 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 thermostats or 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 IR. 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 IR, 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 (IR) 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 (IR) 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 IR 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.

Any detection by the Occupancy sensor in the Managers office or the optional Remote Occupancy Sensor or the optional Remote Occupancy Switch will override the Timeclock and keep the building in OCCUPIED mode.

OPEN/CLOSED Automatic and Manual Operation

An OPEN/CLOSED switch exists on the front panel of the Control Box. This switch has three positions. When in the Automatic position, a timeclock will activate the Signs and Exterior Lights, provided the Photocell has determined that it is dark enough outside for the lights to be on, at a time that has been programmed into the timeclock. A Team Member may place the OPEN/CLOSED switch in the Manual OPEN or Manual CLOSED position to override the timeclock operation of the Open mode or Closed mode.

Manual OPEN Mode

When a Team Member places the OPEN/CLOSED switch in the Manual OPEN position it activates the Signs and Exterior Lights when the Photocell determines it is dark enough for the lights to be on. The store will remain in the OPEN operation until the switch is moved to either the CLOSED position or the Automatic timeclock operation.

Manual CLOSED Mode

When a Team Member places the OPEN/CLOSED switch in the Manual CLOSED position it turns off the Signs and Exterior Lights. The store will remain in the CLOSED operation until the switch is moved to either the OPEN position or the Automatic timeclock 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.

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

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CONTRACT DATE:	10.23.17
BUILDING TYPE:	EXP. LITE MED40
PLAN VERSION:	DECEMBER 2016
SITE NUMBER:	311687
STORE NUMBER:	436563

TACO BELL

3923 SHAKEDOWN ST.
CHARLOTTE, NC

EXPLORER LITE
MEDIUM54

ELECTRICAL DETAILS

E6.0