WHEEL MONITOR

CTC 400

Cab Trailer Communication
Power Line Carrier Technology

Communications for Trucks and Trailers

Installation Manual
for the CTC-400 Cab and Trailer Modules

Wheel Monitor Installation Manual for the CTC-400 Modules

1. CTC-400 Features

- Lift Axle Control
- Axle Slider Control
- Backup Alarm
- Steer Axle Locking Pin Control
- An Auxiliary Control Output
- Trailer Low Air Reserve Pressure Indicator
- Driver Information Indicators on Function Operations

2. CTC- 400 System

The CTC-400 system consists of two modules, a cab module (CTC C-400), and a trailer module, (CTC T-400). These modules will control inputs and outputs on both the cab and the trailer. They will communicate with each other using Power Line Communications though the J560 connector on the blue line. No new wiring between the cab and trailer is required. This system is in accordance with SAE-J1587 specifications and is compatible with ABS brakes systems.

3. Installation of the CTC – 400 Cab Module

For the CTC C-400 Cab module, we recommend placement near the rear of the cab, or inside the cab, close to the J560 connector

3.1. Mounting

- The CTC C-400 cab module should be mounted with the connector to the side.
- Place the module where it is to be mounted. Allow room for the wiring to connect to the unit.
- Mark the location and of the mounting holes and remove module.
- Drill ¼” (6.3 mm) holes for mounting.
- Mount the module with appropriate hardware.

3.2. Dash Indicator Lamps and Switches

- Your tractor may already have spare switches that can be used to control the CTC C-400 functions.

- If it does not, then they will have to be mounted on the dash.
- The CTC C-400 Cab module has three inputs and four indicators on the dashboard.
    - Slider control
    - Lift axle
    - Auxiliary switch
  - It will indicate
    - slider status
    - lift axle status
    - steer axle status
    - airbrake tank low pressure warning.
- Place dash template at desired location on dash
- Make sure of clearances behind the panel BEFORE drilling
- Mark out light and switch placement
- Make sure of clearances for wiring and the back of switches.
- Mount switches and lights.

3.3. Wiring the Cab modules and Dashboard

- With all lights and switches in place you can now run your wire.
- Plug the wire harness with the grey connector into the cab module.
- Be sure to leave slack in the wire for movement of the air-ride cab.
- Separate the **white, blue, and orange/white** wires from harness.
- Run a **red** wire from the fuse panel to the Lift axle switch.
- Run the **green, violet, yellow, grey, black, grey/white, tan/white and the brown/white** wires through frame rail to the dashboard
- Drill or use existing hole through fire wall, close to dash switches
- Install tie wraps every 10-16” (25-40cm) to secure wire harness. Be sure to fasten the wiring harness to the cab 4-6” (12-15cm) away from the cab module to reduce wire strain.

3.4. Dashboard Wire Connections

NOTE All connections must be on a screw terminal or soldered and shrink wrapped.

- Connect one end of the **red** wire to the fuse panel and the other end to the lift axle switch. This may already be present if using an existing switch

- Connect the **brown/white** wire to the open side of the lift axle switch
- Connect the **grey/white** wire to one side of the Slider control switch
- Connect the **tan/white** wire to the open side of the Auxiliary switch
- Connect the **violet** wire to one side of the lift axle status light
- Connect the **yellow** wire to one side of the steer axle status light
- Connect the **grey** wire to one side of the axle slider status light
- Connect the **green** wire to the open side of the low air warning light and buzzer
- Connect the **black** wire (ground) to all switches and lights

3.5. Tractor Connections

- Connect the **orange/white** wire, (+12 volt input) to the reverse transmission switch. This must be an environmentally sealed switch to eliminate short circuits caused by water.
- Connect the **blue** wire to the back of the J560 connector, (Pin 7 Blue). We recommend a 10amp fuse be used inline with the blue power supply.
- Connect the **white** wire to the back of the J560 connector, (Pin 1 White).

3.6. Cab Module Wire Description

P1	white	Ground	
P2		Not Used	
P3	orange/white	+12 volt input	Transmission Reverse
P4	brown/white	+12 volt input	Lift Axle Switch
P5	tan/white	+12 volt input	Auxiliary Switch
P6	grey/white	+12 volt input	Slider Control Switch
P7	grey	+12 volt out	Axle Slider Status Light
P8	yellow	+12 volt out	Steer Axle Status Light
P9	green	+12 volt out	Low Air Pressure
P10	violet	+12 volt out	Lift Axle Status Light
P11		Not Used	
P12	blue	+12v Supply	

3.7. Initial power up

The CTC C-400 cab module is powered using the blue wire from the J560 connector. If your vehicle model year is 1998 or newer, the CTC C-400 should power up when the key is turned to the on position. For trucks older than 1998, the CTC C-400 may power up from a Lift axle switch or an auxiliary switch that controls the blue line. The CTC C-400 should be powered up whenever the vehicle is running.

The CTC T-400 trailer module is powered from the blue line and will power up when the J560 connector is mated to the trailer.

4. Installation of the CTC T– 400 Trailer Module

4.1. Mounting CTC T - 400 modules

- For the CTC T-400 trailer module we recommend placement on the front of the trailer for retrofit applications. This allows easy access to all required connections.
- For factory installation mount the module as near to a junction box as possible.

4.2. Mounting instructions for trailer

- The CTC T-400 trailer module should be mounted with the connector to the side
- Place template at location where module is to be mounted. Allow room for the wiring to connect to the unit.
- Mark the location and of the mounting holes and remove template.
- Drill ¼" (6.3 mm) holes for mounting.
- Seal and mount modules with hardware supplied.

4.3. Wiring the trailer module

NOTE All connections must be soldered and shrink wrapped. All switches should be environmentally sealed and watertight. The air tank pressure switch must have a **good ground connection to the harness**.

- Connect the **brown** wire to the lift axle solenoid (+12v out)
- Connect the **orange** wire to the reverse backup alarm and the steer axle lock valve (+12v out)
- Connect the **tan** wire to the Auxiliary solenoid (+12v out)

- Connect the **grey** wire to the axle slider solenoid (+12v out)
- Connect the **green / white** wire to the low air tank sensor. Connect the other side to the trailers white wire (ground).
- Connect the **violet / white** wire to the Steer Lock Pin limit switch to indicate when the pin is in.
- Connect the **grey / white** wire to the Slider axle limit switch to indicate when the slider box pin is locked.
- Connect the **yellow** wire to the lift axle limit switch to indicate when the Axle is up.
- Connect the **white** wire to the ground or white wire at J560 connector (Pin 1 White).
- Connect the **blue** wire to the auxiliary or blue wire at J560 connector (Pin 7 Blue)

4.4. Trailer Module Wire Description

P1	white	Ground	
P2		Not Used	
P3	green/white	ground input	Air Tank Pressure
P4	yellow	ground input	Lift Axle Limit Switch
P5	violet/white	ground input	Steer Lock Pin Switch
P6	grey/white	ground input	Slider Limit Switch
P7	grey	+12 volt out	Slider Control
P8	tan	+12 volt out	Auxiliary Output
P9	orange	+12 volt out	Backup Alarm/PinLock
P10	brown	+12 volt out	Lift Axle Control
P11		Not Used	
P12	blue	+12v Supply	