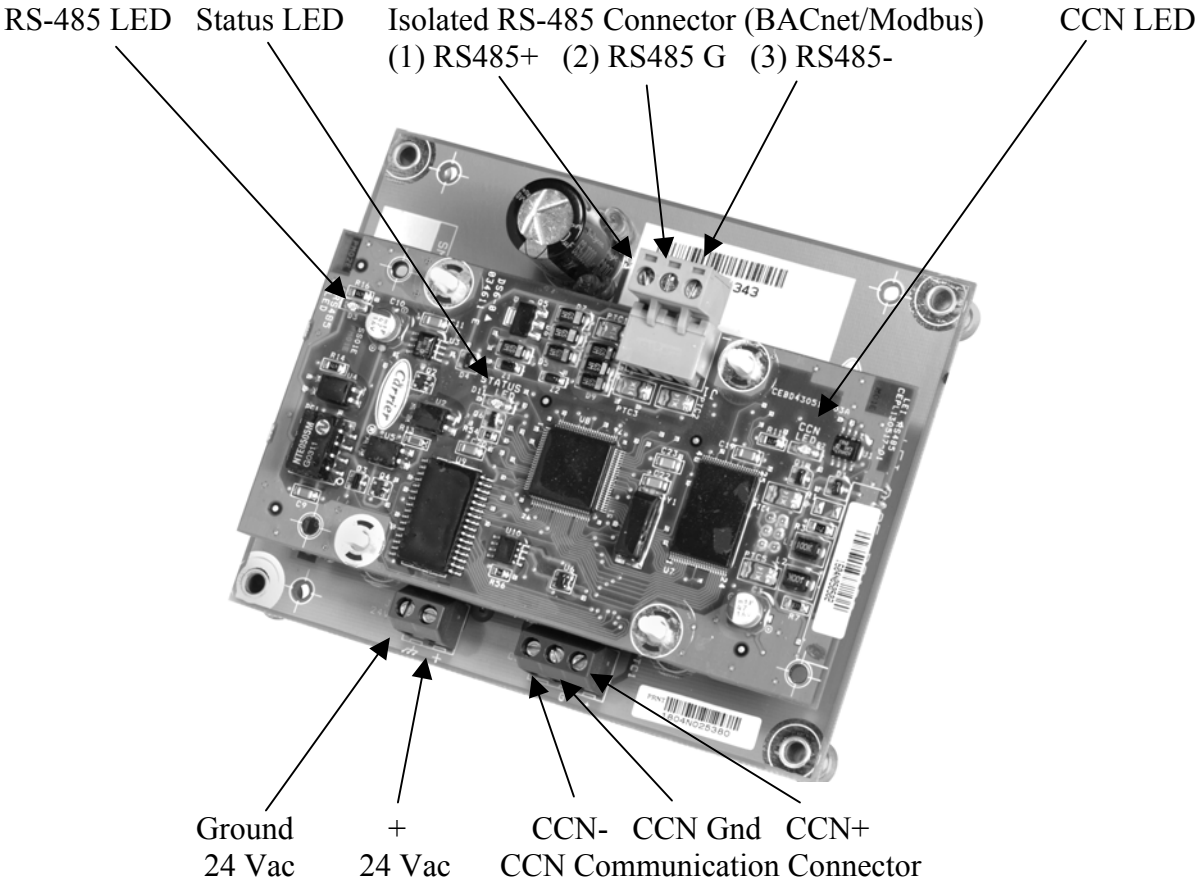
# BACnet/Modbus Carrier Translator
# Installation Instructions

The CCN Carrier Translator module with RS-485 serial communication (33CNTRAN485), shown below, is a microcontroller-based module that provides the ability to easily interface Carrier CCN controllers to third party non-Carrier control equipment. The BACnet/Modbus Carrier Translator provides CCN to Modbus Remote Terminal Unit (RTU) and BACnet Master-Slave/Twisted-Pair (MS/TP) protocol conversion.



## Installation Procedure

1. Install the Carrier Translator printed circuit board into the equipment's CCN controls section and secure by inserting 4 sheet metal screws through the board's integrated standoffs.
2. Connect a field supplied 24 Vac (3 VA minimum) transformer to the power connector.

   **Note 1:** The power can be shared with a single CCN controller's 24 Vac transformer provided that you ensure there is sufficient VA available on the existing transformer. The Carrier Translator provides an isolated communications port that allows for power sharing with one other Carrier CCN controller that utilizes 24 Vac. When sharing power, make sure that the polarity of the power wires into the Carrier Translator (24 Vac + and Ground) are the same as at the source controller.

   **Note 2:** It is recommended that you provide a way to cycle power to the Carrier Translator without disconnecting wires.

**Table 1**
Power Connector
Terminal Assignment

| Carrier Translator Connector | Signal |
|---|---|
| + | Supply Hot |
| ⏚ | Supply Common |

3. If the CCN network consists solely of this Carrier Translator and its associated CCN controller, wire the Carrier Translator's non-removable CCN communication connector to the CCN controller's CCN communication connector.

   If the CCN network consists of multiple Carrier Translators and multiple associated CCN controllers, wire the CCN communication bus in accordance with all CCN network standards and address the Carrier Translators and CCN controllers appropriately.

**Table 2**
CCN Connector
Terminal Assignment

| Carrier Translator Connector | Equipment Connector | Signal |
|---|---|---|
| + | 1 | CCN Data (+) |
| G | 2 | CCN Signal Ground |
| - | 3 | CCD Data (-) |

4. Wire the Carrier Translator's removable RS-485 communication connector to the third party's Modbus or BACnet MS/TP communication network as instructed by the third party representative.

## LEDs

The BACnet/Modbus Carrier Translator has three LEDs that are used to indicate operational status:

| LED | Color | Indicates |
|---|---|---|
| Status | Red | Operating, initialization and configuration status. The LED blinks at a 2 Hz rate when initializing and at 1 Hz when operating correctly. |
| CCN | Yellow | The Carrier Translator is sending CCN communication messages to the connected CCN controller. If the connected CCN controller is responding, its CCN LED will blink when a message is sent back to the Carrier Translator. |
| RS-485 | Green | The Carrier Translator is sending RS-485 communication messages to the Modbus or BACnet MS/TP network. |