AL-1740 Databus Isolator/Repeater
Installation Instructions

1040750C • February 2007

Introduction

This is the GE *AL-1740 Databus Isolator/Repeater Installation Instructions*. The AL-1740 provides isolation between devices connected to the RS485 databus used in the Alliance system. It enables you to use the local ground for earth connection of isolated databus segments and increases the maximum databus cabling run from 5,000 ft. (1.5 km) to 20, 000 ft. (6 km) using Belden 8723 cable and three AL-1740 devices. You should provide local power for each isolated databus segment and fit local termination and local ground for each segment.

Hardware kit

Each AL-1740 ships with the following hardware:

- One 3-position terminal block
- Two 2-position terminal blocks
- Two TERM jumpers
- Four clip-in standoffs
- Four mounting screws

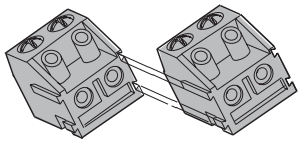
CAUTION: You must be free of static electricity before handling circuit boards. Wear a grounding strap or touch a bare metal surface to discharge static electricity.

Installation

To mount the unit, do the following:

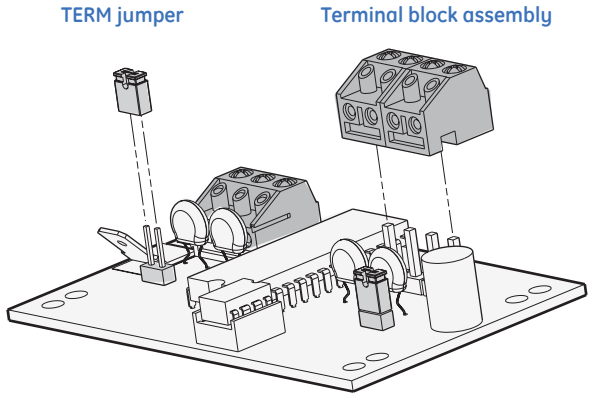
1. Slide the terminal blocks together (*Figure 1*).

Figure 1. Terminal block assembly



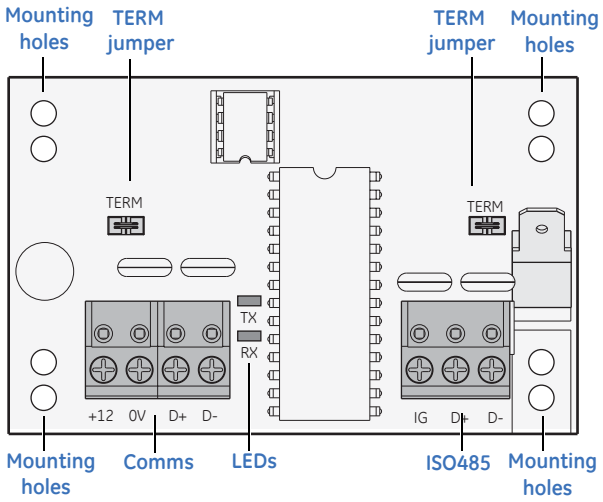
2. Slide the terminal blocks over the pins on the card (*Figure 2*).

Figure 2. Card assembly



3. Slide the jumpers over the appropriate pins on the card. Fit the TERM jumper (*Figure 3*) on the first and last device on the databus segment.

Figure 3. Components



4. Disconnect power from the control panel.
5. Mount the AL-1740 card in the enclosure using the clip-in standoffs and mounting screws.
6. Wire the AL-1740 (see *Wiring*).

Wiring

AL-1740 cards can be up to 5,000 ft. (1.5 km) from the control panel or 4-Door/Elevator Controller DGP, depending on the cable used. We recommend Belden 8723 two-pair, twisted, shielded data cable.

Figure 3 shows the wiring connections on the card.

Comms (system bus)

+12, 0V. 12 VDC supply input. 80 mA maximum with no other peripheral devices connected.

D+, D-. Positive and negative data connection of the RS485 databus.

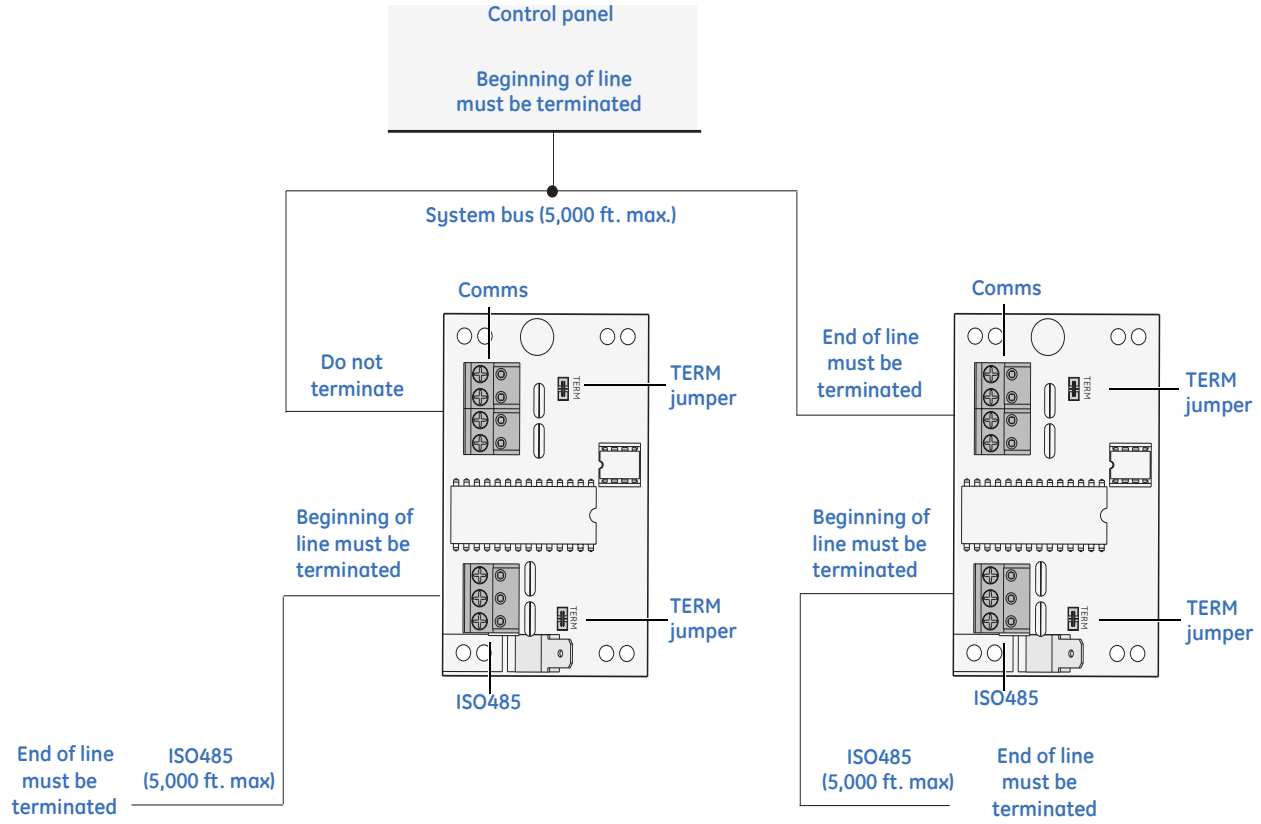
ISO485

IG. Isolated ground (- from isolated PSU).

D+, D-. Isolated positive and negative data connection of the RS485 databus.

Figure 4 shows a typical AL-1740 wiring diagram.

Figure 4. Typical wiring diagram



LEDs

Figure 3 shows the location of the RX and TX LEDs on the card.

RX. Indicates the card is receiving data from the nonisolated databus.

TX. Indicates the card is sending data from the nonisolated databus.

Specifications

Supply voltage	9 to 14 VDC
Current	90 mA
Operating temperature	32 to 122°F (0 to 50°C)
Humidity	95% noncondensing
Listings	UL 294 Standard for Access Control Systems Units UL 365 the Standard for Police Station Connected Burglar Alarm Units and Systems UL 609 Standard for Local Burglar Alarm Units and Systems UL 1610 Standard for Central Station Burglar Alarm Units UL 1635 Standard for Digital Alarm Communicator System Units