Description

Use the AL1741 RS232 to RS485 Interface if you need to expand the distance between the AL-1801 on the control panel and the computer. The maximum distance of 50 feet (15 m) allowed by the AL-1801 can be expanded to a distance up to 5,000 feet (1.5 km) with the AL-1741 Interface.

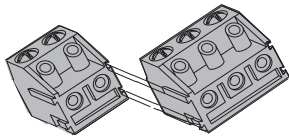The unit ships with the following hardware:

- 3 two-position terminal blocks
- 1 three-position terminal blocks
- 1 jumper
- 4 clip-in standoffs
- 4 mounting screws

Installation

To install the unit, do the following:

1. Slide the terminal blocks together (*Figure 1*).
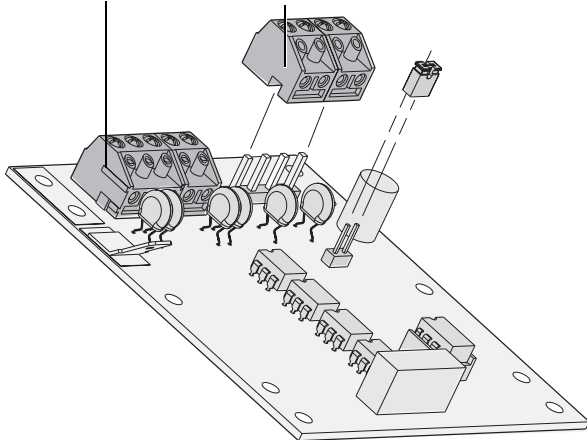
Figure 1. Terminal block assembly.

⚠️ **CAUTION** — **You must be free of static electricity before handling circuit boards. Wear a grounding strap or touch a grounded surface to discharge static electricity.**

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

Figure 2. Exploded view

ISO (RS232) terminals   COMMS (RS485) terminals

3. Disconnect power to the Alliance control panel before mounting the AL-1741 in the enclosure and secure using the clip-in standoffs and mounting screws provided.
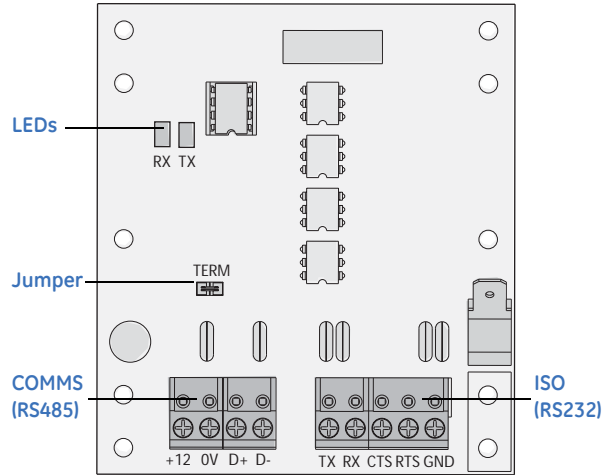4. Wire the unit as shown in *Wiring*.

Wiring

Use a 2-pair twisted, sheilded, data cable to wire the unit. We recommend you use Belden 8723 cable.

AL-1741 wiring terminals

Figure 3 shows the wiring terminals on the AL1471.

Figure 3. AL-1471 wiring terminals, jumper, and LEDs

Units wired on the RS485 databus can be up to 5,000 feet (1.5 km) from the control panel or 4-door controller power source. Details for the COMMS (RS485) terminals are shown in *Table 1*.

Table 1. COMMS (RS485) terminals

+12	12 VDC supply input, 100 mA maximum
0V	Negative power supply
D+	Positive data connection of the RS485 databus
D-	Negative data connection of the RS485 databus

Units wired on the RS232 databus are limited to a distance of 50 feet (15 m) from the control panel or 4-door controller power source. Details of the ISO (RS232) terminals are shown in *Table 2*.
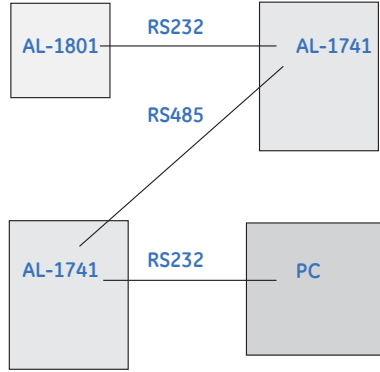
Table 2. ISO (RS232) terminals

TX	RS232 data transmit
RX	RS232 data receive
CTS	Clear to send
RTS	Request to send
GND	Isolated RS232 ground

Configuration

To use the AL-1741 to extend the possible distance between the AL-1801 and the computer, configure the units as shown in *Figure 4*.

Figure 4.   Wiring configurationL

Wiring the devices in the configuration

To wire the devices in the configuration shown in *Figure 4*, do the following:

1.   Wire the AL-1801 to the AL-1741 (RS232) as shown in *Table 3*.

Table 3.   AL-1741 to AL-1801 wiring

AL-1741	AL-1801
TX	RXD
RX	TXD
CTS (link RTS/CTS)	Not connected (+12V on CTS)
RTS (link RST/CTS)	Not connected
GND	GND

2.   Wire the AL-1741 (RS484) to another AL-1741 (RS485) as shown in *Table 4*.

Table 4.   AL-1741 to AL-1741 wiring

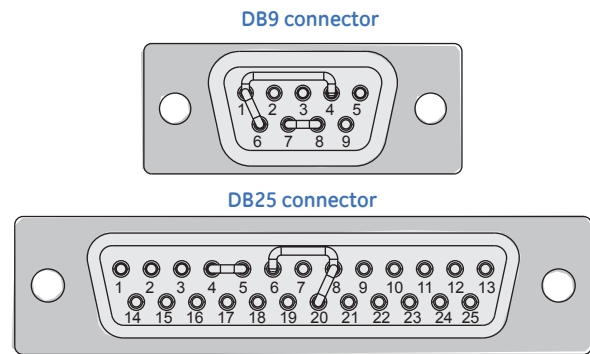| AL-1741 (RS485)	AL-1741 (RS485)
+12V	+12V
0V	0V
D+	D+
D-	D-
GND	GND

3.   Wire the AL-1741 (RS232) to the PC (RS232) as shown in *Table 5*.

Table 5.   AL-1741 to PC wiring

AL-1741 (RS232)	PC (RS232)	DB9	DB25
TX	RX	2	3
RX	TX	3	2
CTS	DTR (Ready)	1, 4, 6	6, 8, 20
RTS	Not connected	-	-
GND	GROUND Link RTS/CTS Shield	5 Link 7/8 -	7 Link 4/5 1

Figure 5 shows the DB9 and DB25 connector pins from *Table 5*.

Figure 5.   DB9 and DB25 connectors

Jumper

The TERM jumper (*Figure 3*) on the AL-1741 is only fitted on the device if it is the last device on the system bus (RS485). See the control panel installation manual for more details on the TERM jumper.

LEDs

There are two LEDs (*Figure 3*) on the AL-1741. The LEDs indicate the following information:

- The TX LED flashes to indicate data is being received in as RS232 and transmitted out as RS485.
- The RX LED flashes to indicate data is being received in as RS485 and transmitted out as RS232.

Specifications

Power input	12 VDC
Current consumption	110 mA
Operating temperature	32 to 122°F (0 to 50°C)
Max. relative humidity	95% noncondensing