

RS232 to RS422 Photo Isolator Converter

INTRODUCTION

The industrial RS232 to RS422 photo isolator provides bi-direction RS232 signals to RS422 signals conversion features, which are used to expand long haul communication distance for RS422 communication. The industrial RS232 to RS422 photo isolator allows the input signals to be completely prevent up to 5000Vrms, which offers customers a unique combination of protection, speed, and versatility for DIN-rail mount industrial data communications applications. There are 3 LED indicators correspond to Tx, Rx, and power signals. A 250mA, 24 VDC power input for industrial standard.

The features of the industrial RS232 to RS422 photo isolator are:

- EIA RS232 to EIA RS422 isolator input and output.
- Heavy-duty optical couplers and a transformer isolated DC-to-DC converter to provide significantly higher electrical isolation - 5000V DC surge (1 minute), 5000V rms continuous.
- Support Tx, Rx, RTS, CTS, DTR, DSR, SG signals for RS232, and Tx+, Tx-, Rx+, Rx-, SG signals for RS422.
- Communication speeds up to 230 K bps.
- Transmit distance up to 4000ft.
- Three LED indicators correspond to Tx(green), Rx(yellow), and power(red) signals.
- A 250mA, 24 VDC (range from 21.6 to 26.4) power input for industrial standard.
- Provides Din Rail mountable package which uses Polyamide UL94(V0) material, and its types are TS-35, TS-32.
- Life expectancy for relay: 100 million operations at signal level load.
- Allow the photo input signals to be completely floated and prevent the ground loops.
- Operating temperature from 0C° to 70C°.

UNPACKING INFORMATION

Check that your industrial RS232 to RS422 photo isolator package includes the following items:

- Industrial RS232 to RS422 photo isolator.
- DB9 or DB25 (option) male expansion cable.
- Shield cable.
- User manual.
- Warranty form.

HARDWARE CONFIGURATION

The industrial RS232 to RS422 photo isolator are shown is the following

1. Signal Assignment for Isolator Box

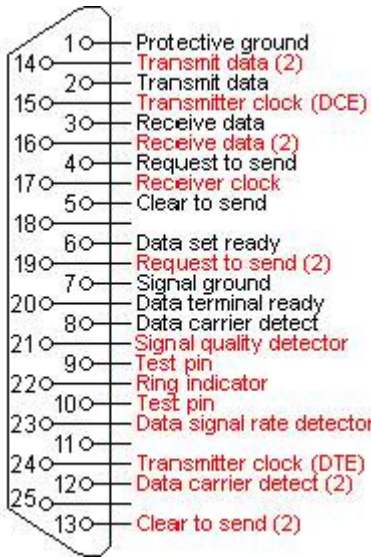
The signal assignment for isolator box is defined as following. Consider the top view of isolator box, there are 15 signals are defined as:

Transmit Data	Receive Data		Shield Ground
Clear To Send	Request To Send		
Signal Ground1			
Data Terminal Ready	Data Set Ready		Signal Ground2
	0V	Receive Data+	Transmit Data+
	24V	Receive Data-	Transmit Data-

Please note that the DTR and DSR signals are short by internal circuit of the box.

2. DB25 Connector Assignments for RS232

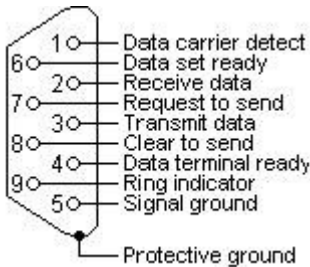
The communication interface follows the EIA RS232 standard. The signal assignments for a standard Data Terminal Equipment (DTE) DB25 connector are shown below:



DB25 Pin #	Signal Name	RS-232C Name	Signal Direction
1	Chassis Ground(GND)	AA	Common
2	Transmit Data(TxD)	BA	Output
3	Receive Data(RxD)	BB	Input
4	Request to Send(RTS)	CA	Output
5	Clear to Send(CTS)	CB	Input
6	Data Set Ready(DSR)	CC	Input
7	Signal Ground(SG)	AB	Common
8	Data Carrier Detect(DCD)	CF	Input
20	Data Terminal Ready(DTR)	CD	Output

3. DB9 Connector Assignments for RS232

The signal assignments for a standard Data Terminal Equipment (DTE) DB9 connector are shown below:



DB 9 Pin #	Signal Name	RS-232C Name	Signal Direction
1	Data Carrier Detect(DCD)	CF	Input
2	Receive Data(RxD)	BB	Input
3	Transmit Data(TxD)	BA	Output
4	Data Terminal Ready(DTR)	CD	Output
5	Signal Ground(SG)	AB	Common
6	Data Set Ready(DSR)	CC	Input
7	Request to Send(RTS)	CA	Output
8	Clear to Send(CTS)	CB	Input
9	Ring Indicator(RI)	CE	Input

4. DB25 Connector Assignments for RS422

The communication interface follows the EIA RS422 standard. The signal assignments for a standard DB25 connector are shown below:

Pin	Description
1	Chassis Ground
2	Transmit Data+(TxD+)
3	Receive Data+(RxD+)
6	Receive Data-(RxD-)
7	Signal Ground(SG)
20	Transmit Data-(TxD-)

5. DB9 Connector Assignments for RS422

The communication interface follows the EIA RS422 standard. The signal assignments for a standard DB9 connector are shown below:

Pin	Description
2	Receive Data+(RxD+)
3	Transmit Data+(TxD+)
4	Transmit Data-(TxD-)
5	Signal Ground(SG)
6	Receive Data-(RxD-)

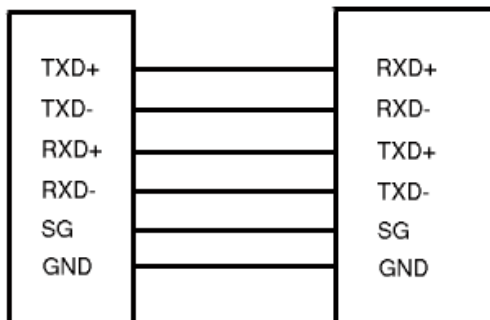
APPLICATIONS

The applications of industrial RS232 to RS422 photo isolator are shown is the following:

1. Connect to RS422 Device

RS232 to RS422 photo isolator

Device



2. For Long Haul Distance Communication

RS232 to RS422 photo isolator

RS232 to RS422 photo isolator

