ICP DAS

I-7520/I-7520A
I-7520R/I-7520AR

I-7520: Isolated RS-232 to RS-485 Converter
I-7520A: Isolated RS-232 to RS-422/485 Converter
I-7520R: RS-232 to Isolated RS-485 Converter
I-7520AR: RS-232 to Isolated RS-422/485 Converter

Features

- Auto Switching Baud Rate, 300~115200 bps
- 3000 V$_{DC}$ Isolation Protection on the RS-485 side
- ESD Protection for the RS-232/422/485 Data Line
- Transmission Speed of up to 115200 bps
- Power Input of +10 ~ +30 V$_{DC}$
- Supports Operating Temperatures from -25 °C ~ +75 °C
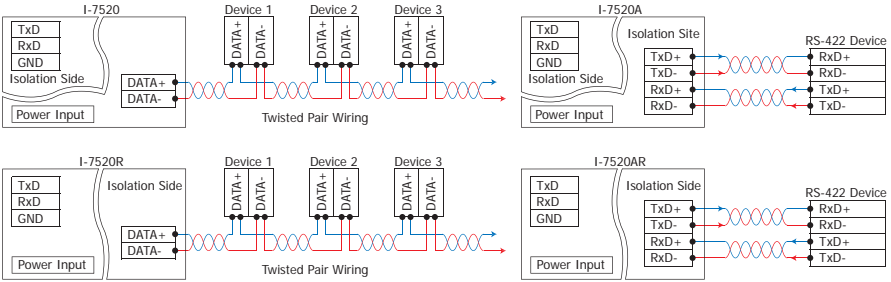- DIN-Rail

Introduction

Most industrial computer systems provide standard RS-232 serial ports. Though widely accepted, RS-232 has limited transmission speed, range, and networking capabilities. The RS-422 and RS-485 standards overcome these limitations by using differential voltage lines for data and control signals, which transparently converts RS-232 signals into isolated RS-422 or RS-485 signal with no need to change any hardware or software. The I-7520/I-7520A lets you easily build an industrial grade, long-distance communication system using standard PC hardware.

The design of the isolation between the I-7520 and the I-7520R/AR is different. If the user wants to supply power from the PLC/PC, the I-7520R/AR should be used, otherwise the isolation will be broken. Refer to the I-7000 bus converter manual for detailed information.

Specifications

Models		I-7520	I-7520R	I-7520A	I-7520AR
Interface					
Serial Interface	RS-232	TxD, RxD, GND			
	RS-422	-		TxD+, TxD-, RxD+, RxD- The RS-422 and RS-485 cannot be used simultaneously	
	RS-485	Data+, Data-			
2-wire Cabling/4-wire Cabling		Belden 8941 (2P twisted-pair cable)/Belden 8942 (4P twisted-pair cable), if different cables are used, the transmission distance may change			
Transfer Distance		Max. 1,200 m for at speed 9.6 kbps; Max. 400 m at 115.2 kbps			
Max. Devices Supported		256 (Without repeater)			
Self-Tuner Asic Inside		Yes			
Speed		300 ~ 115200 bps			
ESD Protection		Yes			
3000 V$_{DC}$ Isolated Voltage		On RS-232 side	On RS-485 side	On RS-232 side	On RS-485 side
Connection	RS-232	9-Pin Female D-Sub			
	RS-422/485	Removable 10-Pin Terminal Block			
LED Indicators					
Power/Communication		Yes			
Power					
Input Voltage Range		+10 V$_{DC}$ ~ +30 V$_{DC}$ (Non-isolated)			
Power Consumption		1.2 W			
Mechanical					
Casing		Plastic			
Flammability		Fire Retardant Materials (UL94-V0 Level)			
Dimensions (W x H x D)		72 mm x 118 mm x 35 mm			
Installation		DIN-Rail			
Environment					
Operating Temperature		-25 °C ~ +75 °C			
Storage Temperature		-30 °C ~ +75 °C			
Humidity		10 ~ 90% RH, non-condensing			

Applications

I-7520 / Twisted Pair Wiring to Device 1, Device 2, Device 3

I-7520A / Isolation Site to RS-422 Device

I-7520R / Twisted Pair Wiring to Device 1, Device 2, Device 3

I-7520AR / Isolation Side to RS-422 Device

Pin Assignments

I-7520/I-7520R

Terminal No.		Pin Assignment
RS-485	01	DATA+
	02	DATA-
	03	--
	04	--
	05	--
	06	--
	07	--
	08	--
	09	(R)+Vs
	10	(B)GND

Pin Assign-ment	Terminal No.	Pin Assign-ment
GND	05	09 --
--	04	08 --
RxD	03	07 --
TxD	02	06 --
--	01	

RS-232: Female DB-9 Connector

RS-232

I-7520
I-7520A
I-7520R
I-7520AR

01   10

I-7520A/I-7520AR

Terminal No.		Pin Assignment
RS-485	01	DATA1+
	02	DATA1-
	03	--
RS-422/485	04	TxD+
	05	TxD-
	06	RxD+/DATA2+
	07	RxD-/DATA2-
	08	--
	09	(R)+Vs
	10	(B)GND

Pin Assign-ment	Terminal No.	Pin Assign-ment
GND	05	09 --
--	04	08 --
RxD	03	07 --
TxD	02	06 --
--	01	

RS-232: Female DB-9 Connector

Dimensions (Unit: mm)

Front View

Back View

Top View

Bottom View

Din-Rail Mounting Bracket

Side View
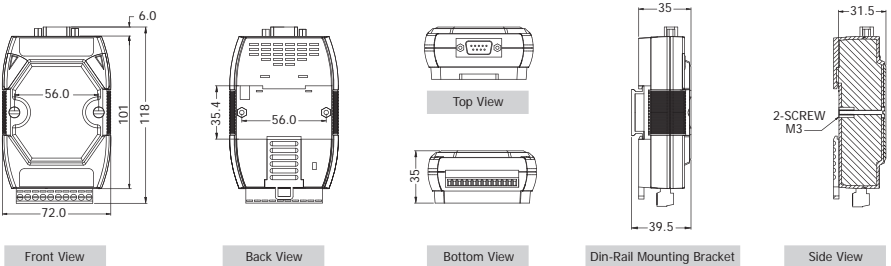
Ordering Information

I-7520 CR	Isolated RS-232 to RS-485 Converter (RoHS)
I-7520A CR	Isolated RS-232 to RS-422/485 Converter (RoHS)
I-7520-G CR	Isolated RS-232 to RS-485 Converter (Gray Cover) (RoHS)
I-7520A-G CR	Isolated RS-232 to RS-422/485 Converter (Gray Cover) (RoHS)
I-7520R CR	RS-232 to Isolated RS-485 Converter (RoHS)
I-7520AR CR	RS-232 to Isolated RS-422/485 Converter (RoHS)
I-7520R-G CR	RS-232 to Isolated RS-485 Converter (Gray Cover) (RoHS)
I-7520AR-G CR	RS-232 to Isolated RS-422/485 Converter (Gray Cover) (RoHS)

Accessories

GPSU06U-6	24 Vdc/0.25 A, 6 W Power Supply
DIN-KA52F	24 Vdc/1.04 A, 25 W Power Supply with Din-Rail Mounting
I-7510 CR	Isolated RS-485 Repeater (RoHS)
I-7510A CR	Isolated RS-422/485 Repeater (RoHS)
CA-0915	9-Pin Male-Female D-Sub Cable, 1.5 m