USB232/422/485 Series

RS232/422/485 USB Converter
User's Manual

TM951006

Contents
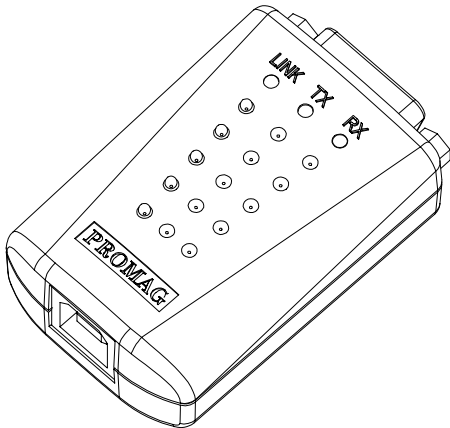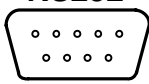
FCC COMPLIANCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable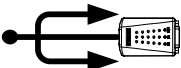 protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
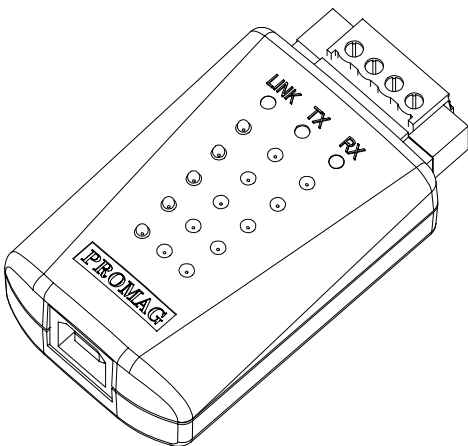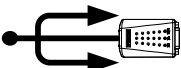
Information

■ USB-232 Converter

MACHINE TYPE	FUNCTION
USB-232	**USB Ver 1.1** · **Multiple Port** · **LED STATUS** · **RS232**

■ USB-422/485 Converter

MACHINE TYPE	FUNCTION
USB-422/485	**USB Ver 1.1** · **Multiple Port** · **LED STATUS** · **RS-422/485**

■ Standard Package
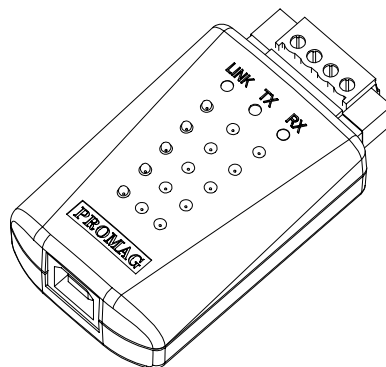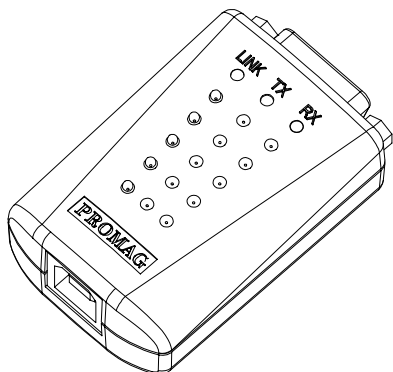
Main Unit
(USB232/422/485-00)
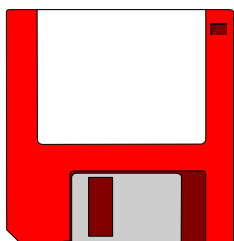
Driver Disk
(DISK5088)

User's Manual
(TM951006)
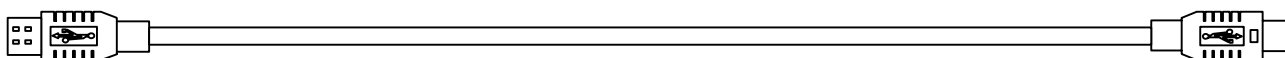
USB Cable
(WAS-1487)

Driver Software Installation -

    1.Connect **USB232/422/485** converter into the USB PORT of your Computer first.

    2.Under Windows **98/2000/Me/XP**,put **DISK5088** into the floppy disk driver,it will automatically install the USB232/422/485 Driver Software into your Computer by following the steps as below:

1. This wizard searches for new drivers for USB Device

2. What do you want Windows to do ?
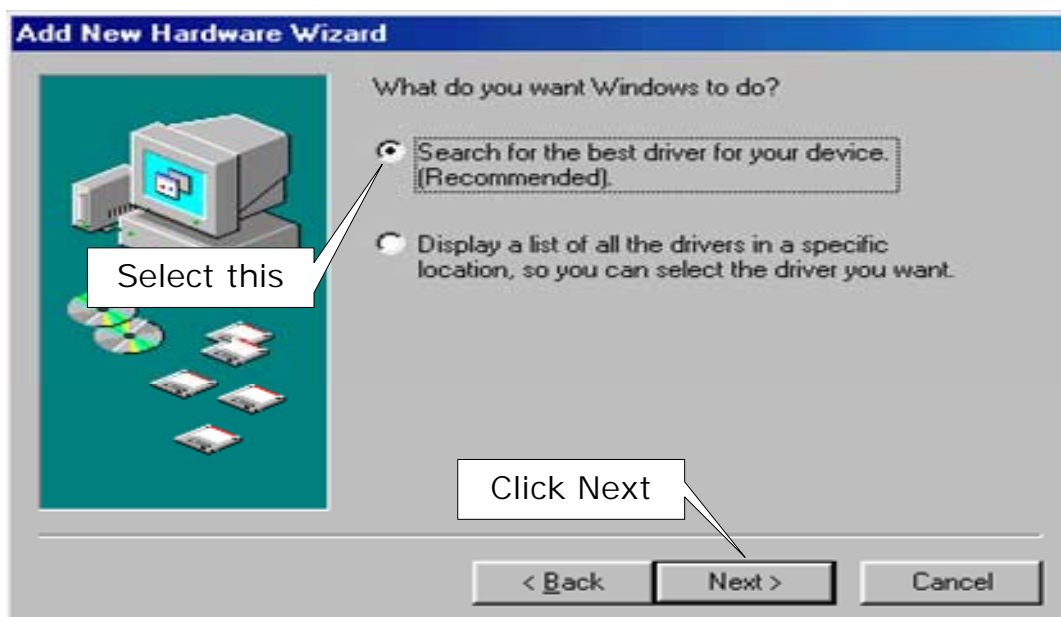
3. Select Searching locations for new driver

Add New Hardware Wizard

Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.

☐ Floppy disk drives

☐ CD-ROM drive

☐ Microsoft Windows Upd

Give the path location

☑ Specify a location:

Select this

A:\WIN98

Browse...

Click Next

< Back   Next >   Cancel

4. Windows is now ready to install the best driver

Add New Hardware Wizard

Windows driver file search for the device:

PROMAG USB232/422/485   Device name

Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.

Location of driver: Path location

A:\WIN98\SER9PL.INF

Click Next

< Back   Next >   Cancel

- 4 -

5. Windows is installing the best driver now

Copying Files...

Source:
A:\win98\SERSPL.VXD

Destination:
C:\WINDOWS\SYSTEM\SERSPL.VXD

75%

[Cancel]

6. Windows has finished installing the software

Add New Hardware Wizard

PROMAG USB232/422/485

Windows has finished installing the software that your new hardware device requires.

Finish driver software installation

Click Finish

[< Back] [Finish] [Cancel]
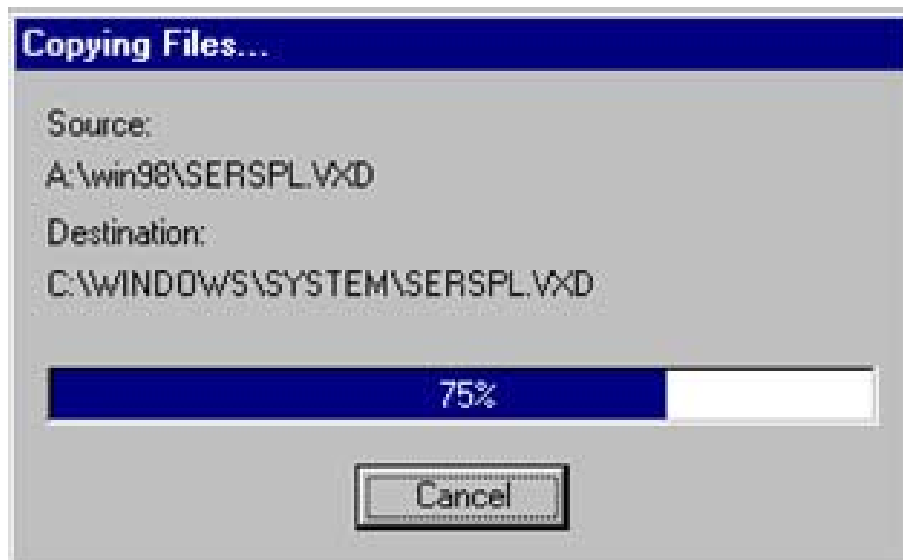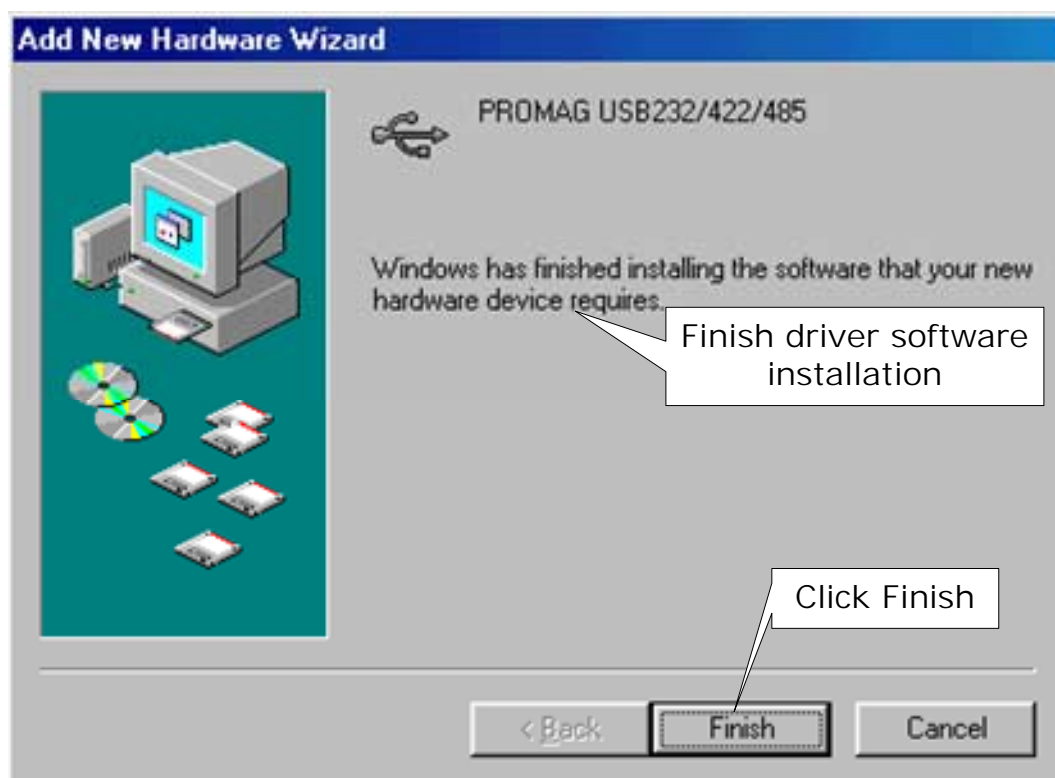
7. Make sure if the driver software installation is finished

Connect USB232/422/485 unit into the USB port of the computer and then Click " Start " ->" Settings " -> " Control Panel " -> " System " ->" Device Manager " to see if there are " PROMAG USB232/422/485(COM3)" at Ports (COM & LPT) and "PROMAG USB232/422/485 "at Universal Serial Bus controllers.

System Properties ？ X

General | **Device Manager** | Hardware Profiles | Performance |

● View devices by type   ○ View devices by connection

- ⊞ Floppy disk controllers
- ⊞ Hard disk controllers
- ⊞ Keyboard
- ⊞ Monitors
- ⊞ Mouse
- ⊞ Network adapters
- ⊟ Ports (COM & LPT)
  - Communications Port (COM1)
  - Communications Port (COM2)
  - Printer Port (LPT1)
  - PROMAG USB232/422/485 (COM3) ◁—— USB232/422/485 connected at COM3
- ⊞ System devices
- ⊟ Universal Serial Bus controllers
  - ALi PCI to USB Open Host Controller
  - PROMAG USB232/422/485 ◁—— USB232/422/485 is here
  - USB Root Hub

Properties | Refresh | Remove | Print... |

OK | Cancel |

Remove Driver Software

How to remove USB232/422/485 Driver Software from your computer-

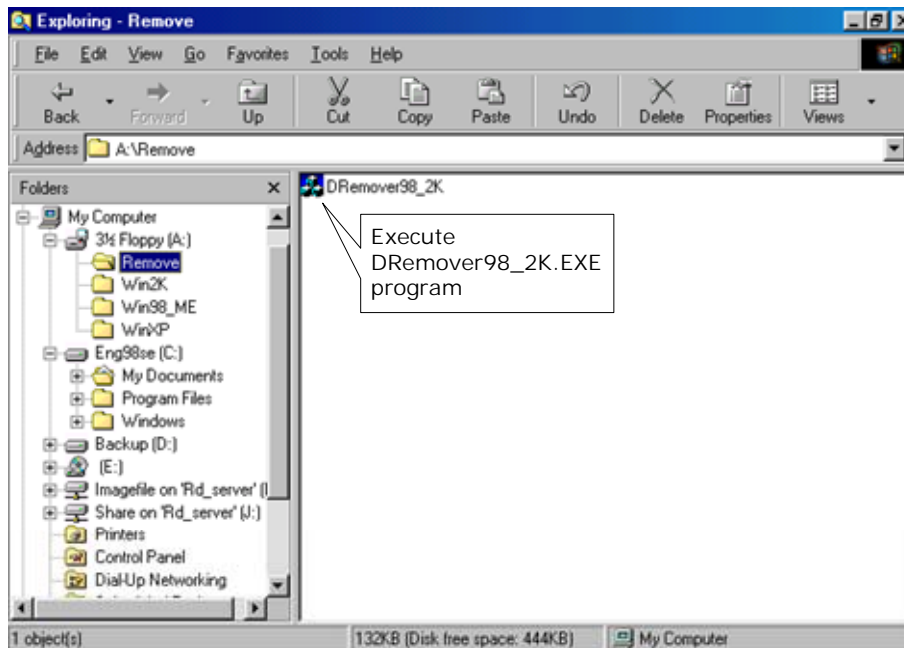Put DISK5088 into the floppy disk drive of the computer and then find and execute DRemover98_2K.EXE by following the steps as below:

1. Execute DRemover98_2K.EXE program

2. Confirm to execute Remove program
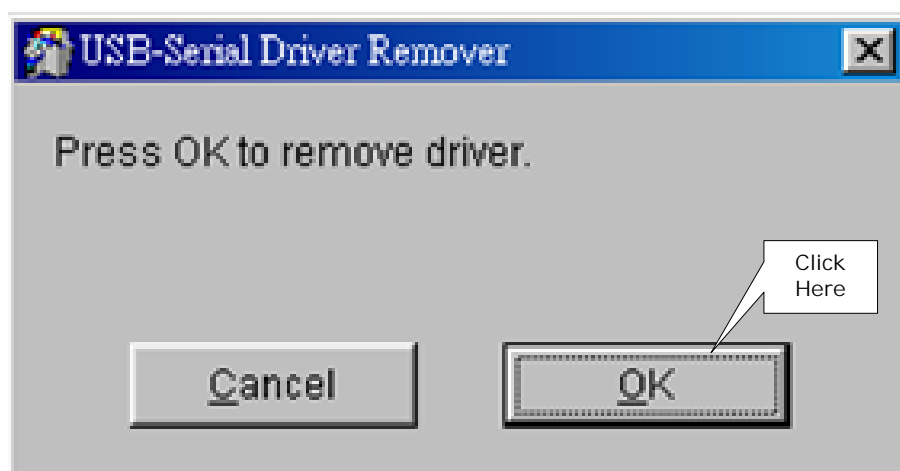
3. Re-boot the Computer after remove program is done

Warning

⚠ If you want to install new driver, you must re-boot Windows system now.
Will you re-boot Windows system immediately?

Click Yes

是(Y)   否(N)

Warning

⚠ Please remove floppy disk from PC, then click [OK] button.

Remove completed

確定
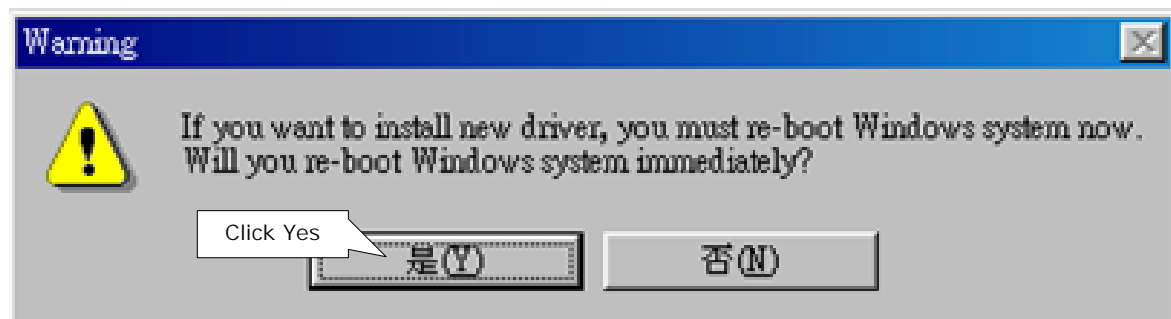
or click "No" button for show as below :

USB-Serial Driver Remover

Remove driver successfully!

Exit

■Front Panel of USB232-00

LINK — RS232 Port

PROMAG

LINK TX RX

USB Port — USB Port

TX — RX
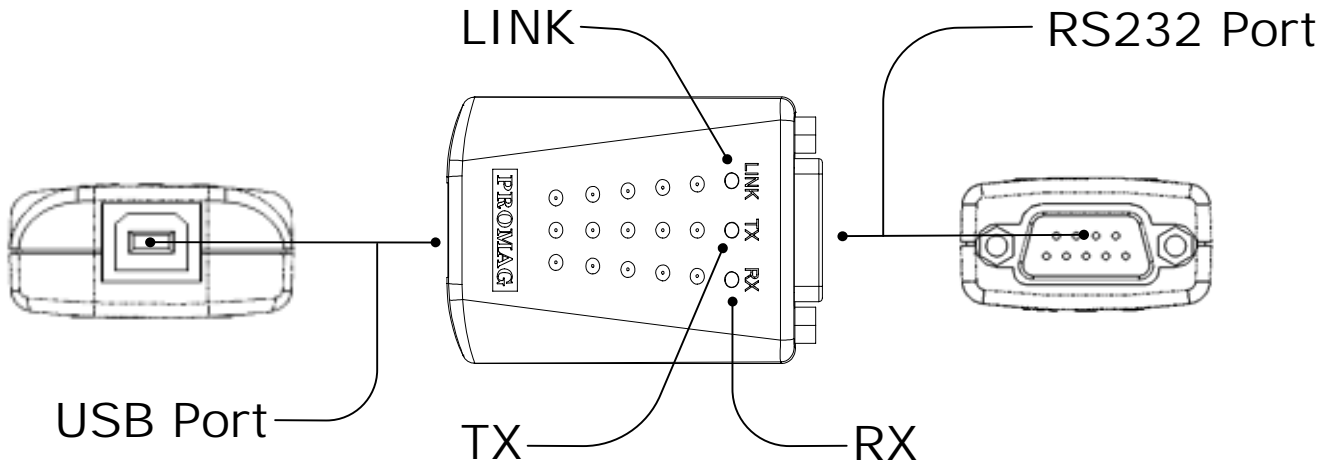
■Front Panel of USB422/485-00

RS422/485 Port

LINK

PROMAG

LINK TX RX

USB Port

TX

RX

RS-422

Or

RS-485

Remark: One USB485 converter can be used for connecting two units of RS-485 devices.
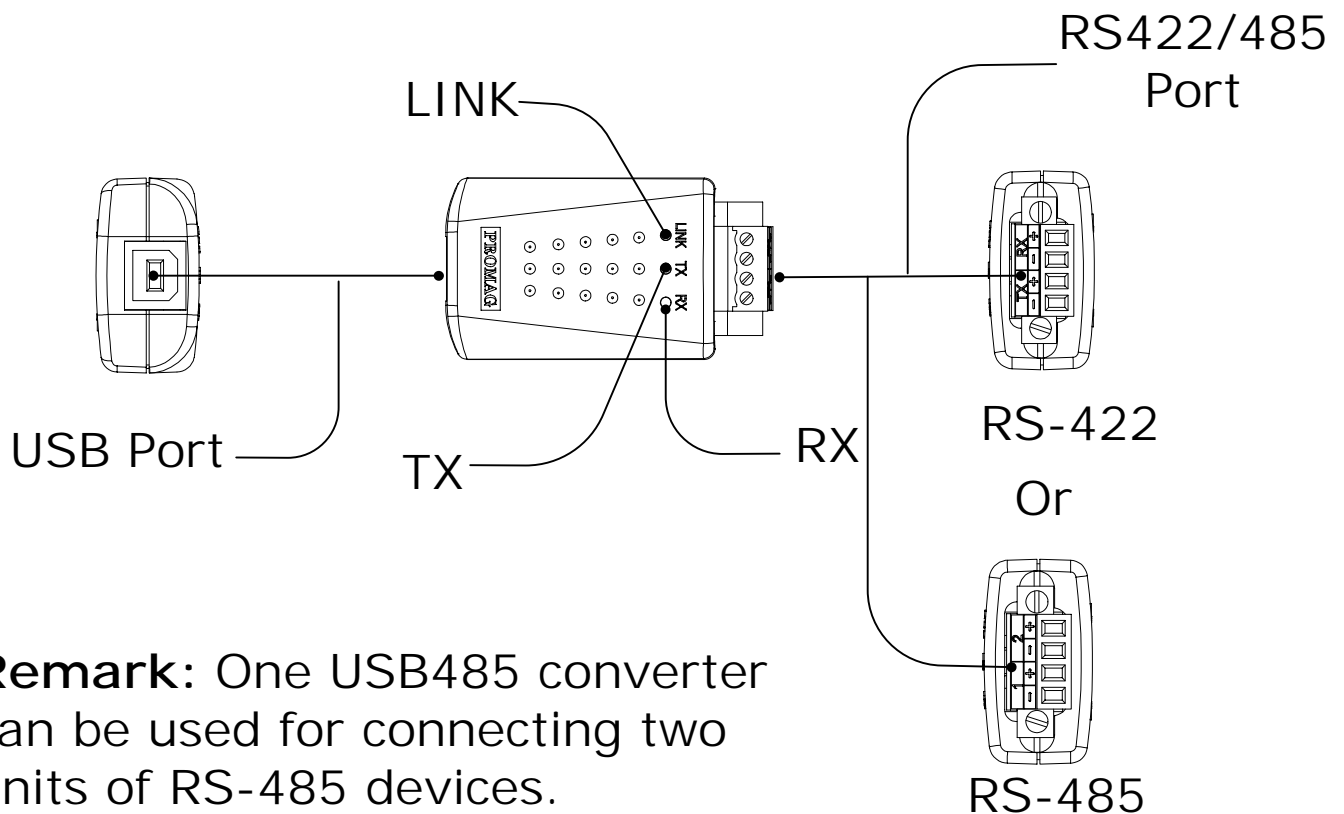
■Operation of USB232/422/485 Converters

RS232/422/485 connector
      Connecting with the terminal device,which is equipped with RS232/422/485 interface.

USB connector
      Connecting with the Computer USB port or Hub.

LINK
      LINK LED turns on when the USB232/422/485 unit is ready for use.

TX
      TX LED turns on when the data is sending from USB port to RS232/422/485 device.
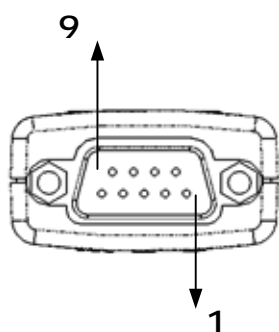
RX
      RX LED turns on when the data is sending from RS232/422/485 device to USB port .

RS232 PIN FUNCTION

PIN No.	I/O	DESCRIPTION
1	I	Data Carrier Detect
2	I	Received Data
3	O	Transmitted Data
4	O	Data Tirminal Ready
5	X	Signal Ground
6	I	Data carrier
7	O	Request To Send
8	I	Clear To Ssend
9	I	Positive dc TEST

RS422

PIN		DESCRIPTION
TX	-	RS422 TX -
	+	RS422 TX +
RX	-	RS422 RX -
	+	RS422 RX +

RS485

PIN		DESCRIPTION
1	-	RS485 -
	+	RS485 +
2	-	RS485 -
	+	RS485 +

Connection

1. Communication between TR550 RS-232 Device and USB Port

WAS-1487   WAS-1436

USB PC   USB232   TR550
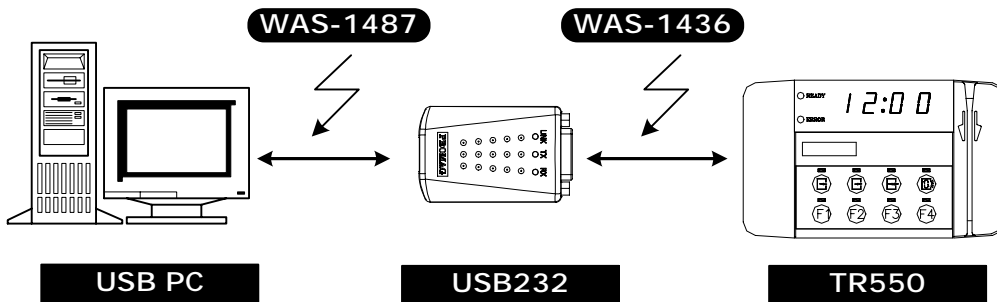
2. Communication between TR510 RS-232 Device and USB Prot

WAS-1487   WAS-1392

USB PC   USB232   TR510
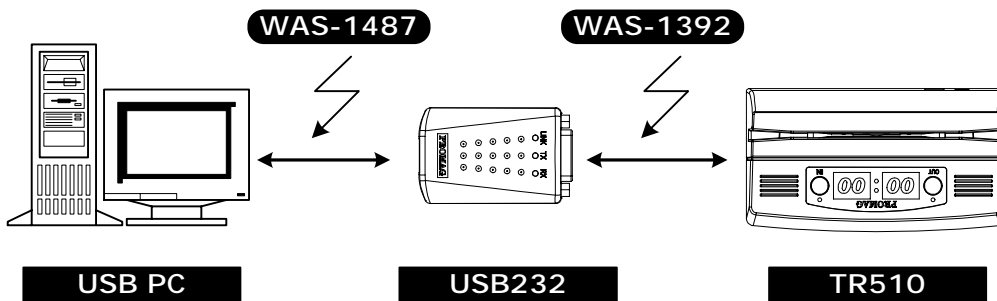
3. Communication between AC9400 RS-232 Device and USB Port

WAS-1487   WAS-1436

USB PC   USB232   AC9400
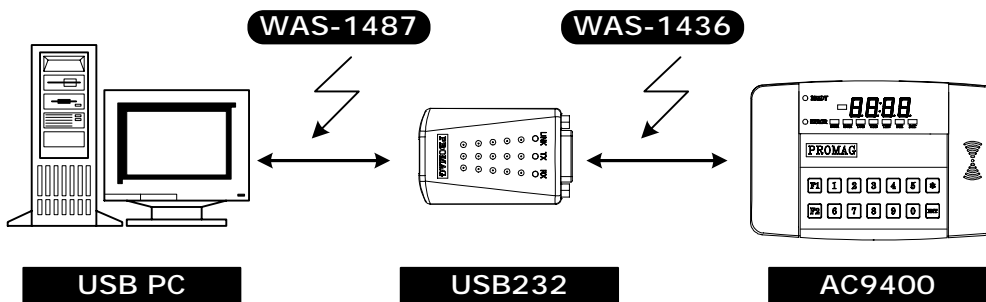
4. Communication between RS-232 MODEM and USB Port

WAS-1487   MODEM ACCESSORY

USB PC   USB232   RS232 MODEM   TEL LINE
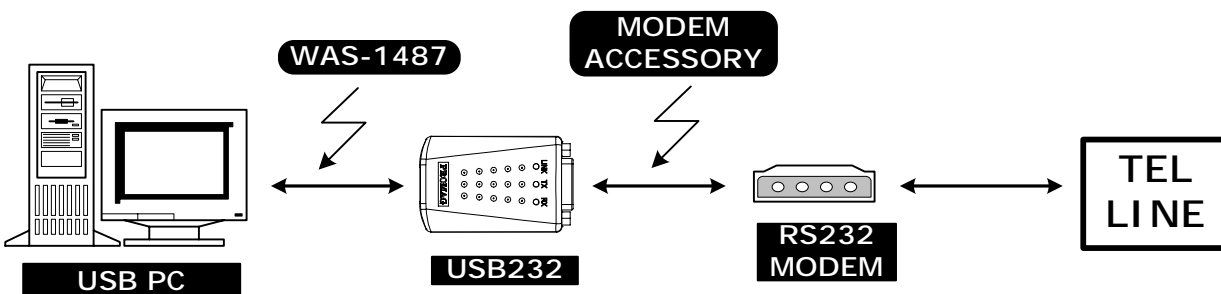
5. Communication between TR550 RS-485 Device and USB Port

WAS-1487   **WAS-1467**

USB PC	USB485	TR550
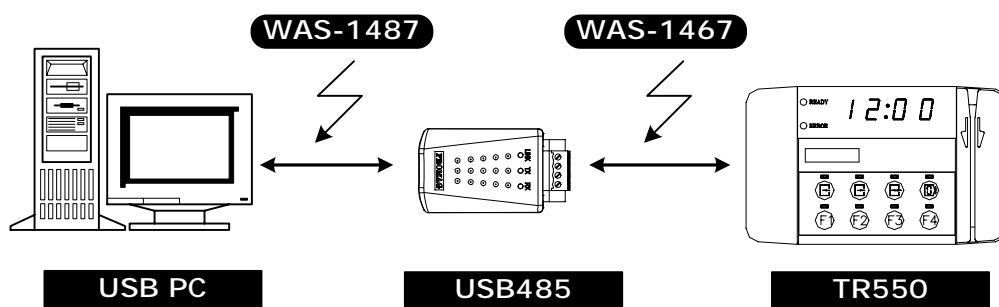
6. Communication between TR510 RS-485 Device and USB Prot

WAS-1487   **WAS-1392**

USB PC	USB485	TR510
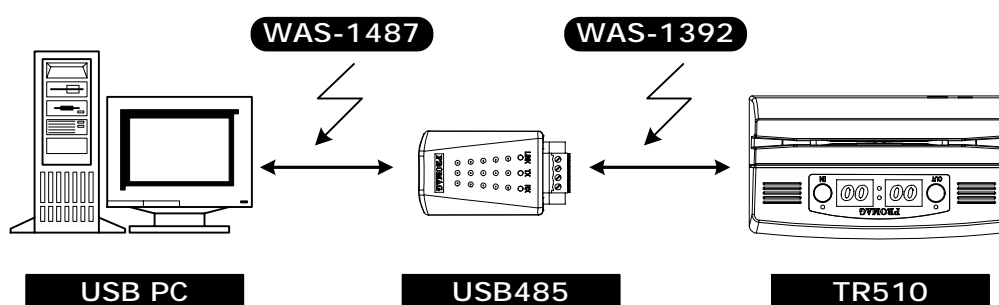
7. Communication between AC9400 RS-485 Device and USB Port

WAS-1487   **WAS-1467**

USB PC	USB485	AC9400
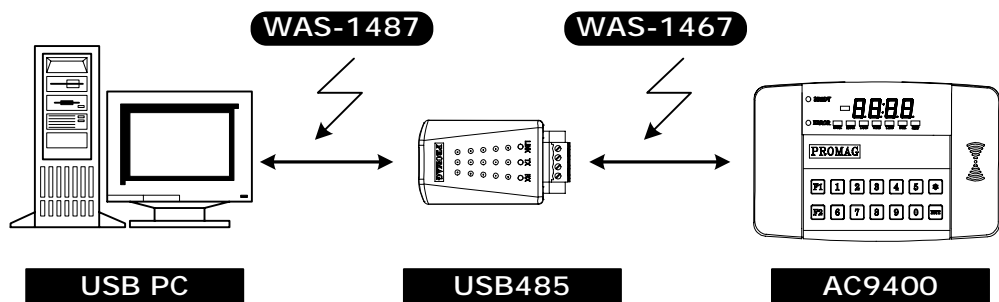
8. Communication between TR530 RS-422 Device and USB Port

WAS-1487   **WAS-1467**

USB PC	USB422	TR530
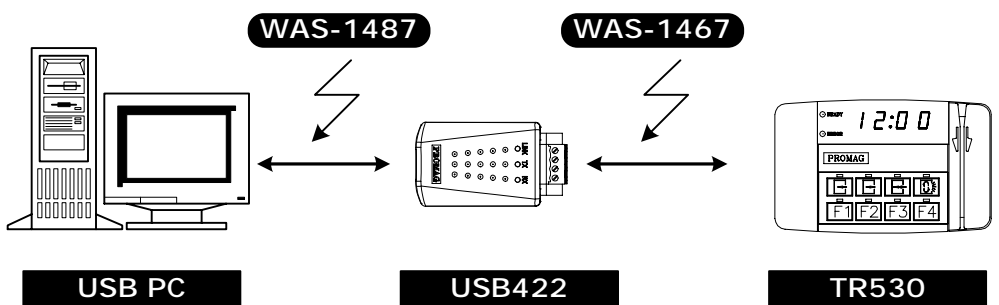
NOTE : It is not always necessary to have the termination resistor. It really depends on the actual wiring and connection circumstances.

See the figure below:

RS485:

WAS-1487   WAS-1467

USB PC

AC-9400

AC-9400   AC-9400

RS485 +

RS485 -

last unit

120 Ohm

RS422:

WAS-1487   WAS-1467

USB PC

READY 12:0 0 ERROR PROMAG F1 F2 F3 F4

TR530

TX+

TX-

RX+

RX-

READY 12:0 0 ERROR PROMAG F1 F2 F3 F4

READY 12:0 0 ERROR PROMAG F1 F2 F3 F4

TR530   TR530

last unit   120 Ohm
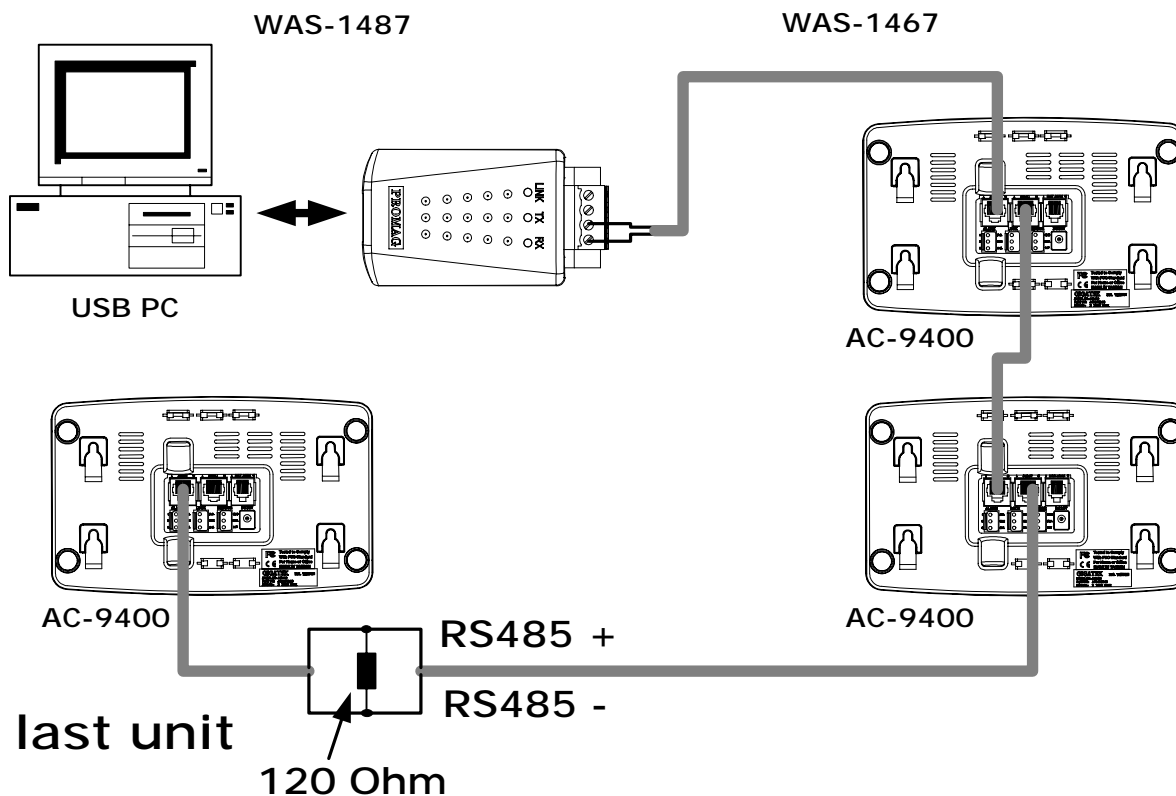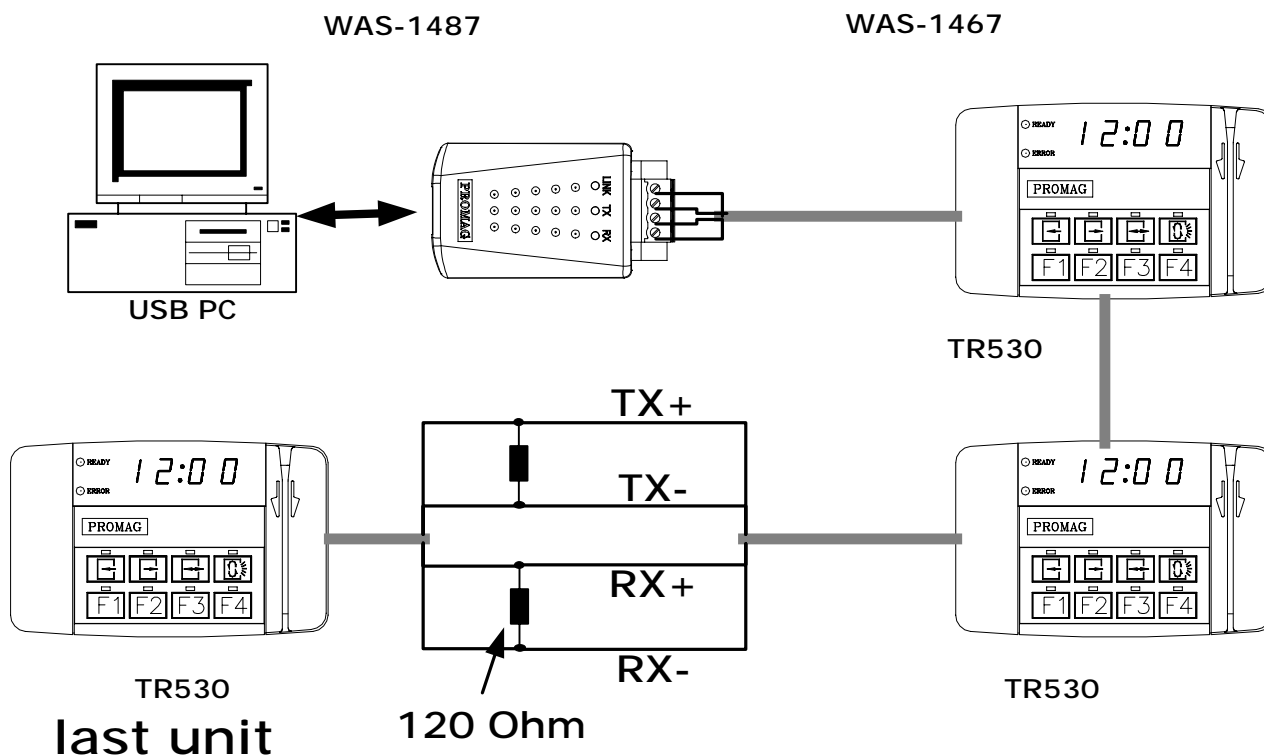
9. Wire connection between RS485 Device and USB485 Converter

USB485			WAS-1467		
PIN		**FUNCTION**	**WIRE**	**COLOR**	**PLUG**
1	+	RS485+	CUT*	GRAY	1
	-	RS485-	CUT*	ORANGE	2
2	+	RS485+	CUT*	BLACK	3
	-	RS485-	CUT*	RED	4
			5	GREEN	5
			CUT*	YELLOW	6
			7	BLUE	7
			CUT*	BROWN	8

USB485			WAS-1392		
PIN		**FUNCTION**	**WIRE**	**COLOR**	**PLUG**
1	+	RS485+	CUT*	BLUE	1
	-	RS485-	CUT*	BROWN	2
2	+	RS485+	CUT*	RED	3
	-	RS485-	4	ORANGE	4
			CUT*	YELLOW	5
			6	GREEN	6
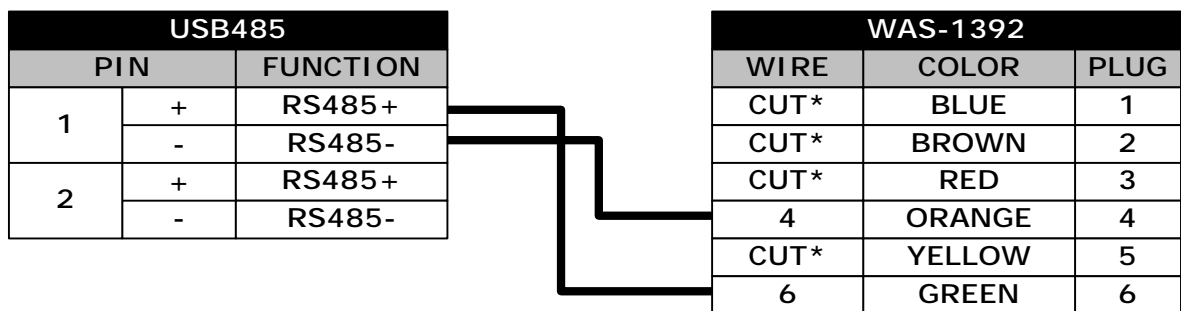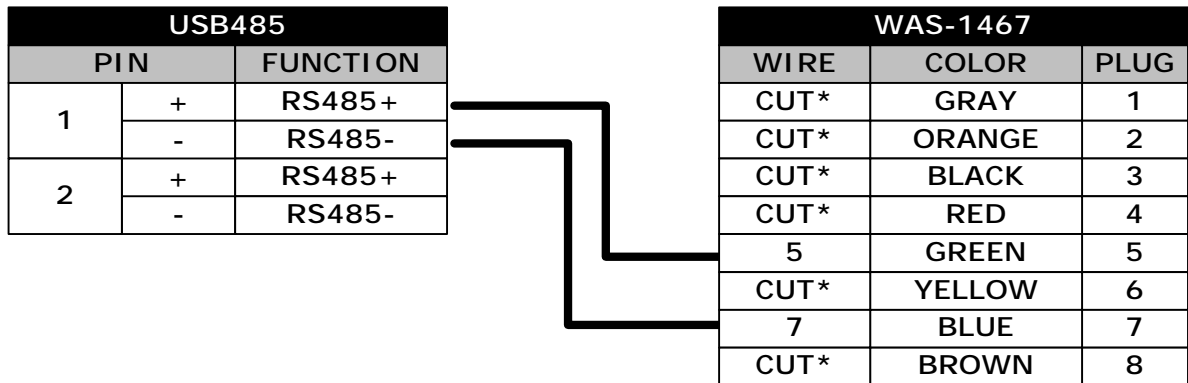
10. Wire connection between RS422 Device and USB422 Converter

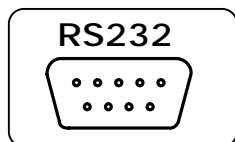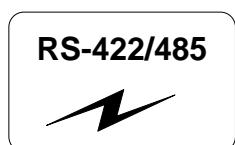| USB422			WAS-1467		
PIN		**FUNCTION**	**WIRE**	**COLOR**	**PLUG**
TX	+	T+	1	GRAY	1
	-	T-	CUT*	ORANGE	2
RX	+	R+	3	BLACK	3
	-	R-	CUT*	RED	4
			5	GREEN	5
			CUT*	YELLOW	6
			7	BLUE	7
			CUT*	BROWN	8
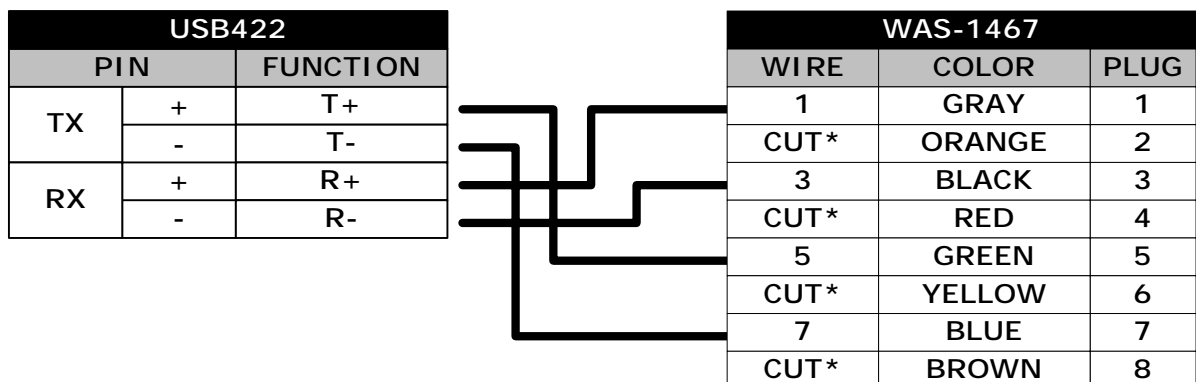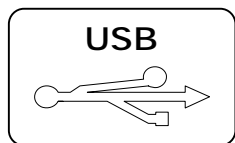
Specifications

USB Interface:

Full compliance with the USB Specification V 1.1

RS232 Interface :

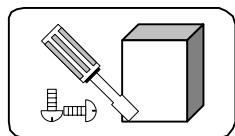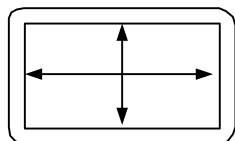RS232 , Full , 8N1 , max 120K bps, ±10KV ESD

RS422/485 Interface :

RS422/485 , Full , 8N1 , max 250K bps, ±10KV ESD
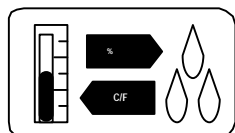
Mounting :

Any surface

Dimensions :

USB232: D 18.8 x W 35 x H 56 mm

USB422/485: D 18.8 x W 35 x H 63 mm

Environment :

Operating Temp : 0 ~ 55 Deg.C

Storage Temp : -10 ~ 55 Deg.C

Humidity : 10 ~ 90 % relative

Note

1. Do not disconnect the USB-xxx converter during running your application program to avoid any unexpected problem.

2. USB-xxx Driver software provides maximum 8 pcs of USB-xxx converters to be used for multiple device communication.The addresses of the multiple devices are according to the COM PORT addresses of the PC or the addresses of the HUB USB PORT where the devices are connected.You should insert the USBxxx into the COM PORT or HUB PORT one by one in order with the addresses indicated.

3. USB-xxx does not work with DOS.Only Win98/2000/Me/XP support USB.

4. You must connect USB-xxx Converter into the USB port of your computer before you start USB-xxx Driver software installation.

5. After USB-xxx Converter is connected into USB port of the computer which is with USB-xxx Driver software installed,LINK LED will turn on to be ready for use, otherwise unplug USBxxx converter and try again after 5 seconds or longer.

6. After unplug USB-xxx converter from the computer,you must wait for minimum 5 seconds and then plug USB-xxx converter into the computer again,otherwise Windows may not detect USB-xxx converter.

7. In the Application Software, the handshaking property must be set to "None" when you use USB485.

8. If you are using RS485 interface for long distance transmission,we suggest you use a 24AWG or begger range one shielded cable for connection,in order to have better performance.