coolgear

USB to RS232 TTL/CMOS Adapter Cable

w/5-pin Terminal Blocks
Model Number: *USB-232TTLMOS-IS*

Installation Guide

Coolgear, Inc.

Version: 1.0
Date: 04/09/2024

Table of Contents

Revision History

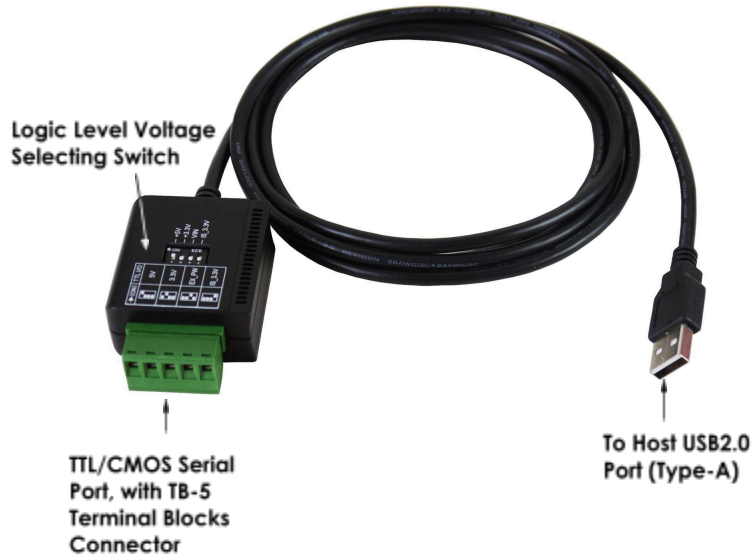| Revision	Date	Comments
1.0	04/09/2024	First Release

1. Introduction

Thank you for purchasing Coolgear's USB to RS232 TTL/CMOS Adapter Cable. It is an intelligent expansion cable that connects to a PC or server via the Universal Serial Bus (USB), providing high-speed serial connectivity. The serial port is fully compatible with RS232 serial standard but with TTL/CMOS logic level instead. There are 2 models available, one is non-isolated and the other is an isolated version. With the selectable logic level voltage, it is an ideal and instant solution for most critical applications.
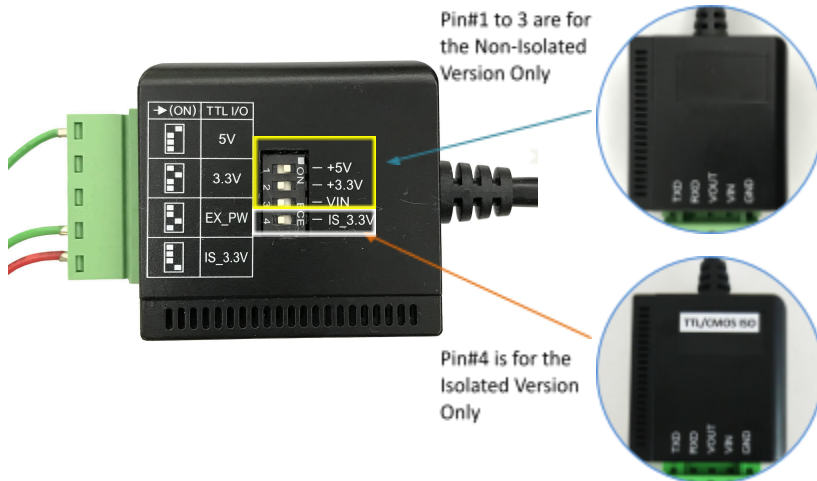
2. Connector Layout

Features:

✔ Provides 1 TTL/CMOS RS232 Serial Port over USB Port
✔ Supports 3-Signal TTL/CMOS RS232 Conversion:(TXD, RXD, GND)
✔ The 2,500Vrms Isolation Model is Available
✔ Supports a 5-pin Terminal Blocks for TTL/COMS Signal Wiring
✔ 5V/3.3V/2.5V/1.8V Logic Level Selectable by DIP Switch
✔ Signal Levels are Similar to Standard RS232 but in TTL/CMOS Swing Level
✔ Easy Serial Port Expansion over USB Port
✔ USB1.1 and USB2.0 Forward Compatible
✔ Supports Serial Speed from 300bps to 921.6Kbps
✔ Supports 7,8 Data Bits
✔ Odd, Even, Mark, Space, None parity mode
✔ Supports 1, or 2 Stop Bits
✔ Supports Win98, Me, XP, CE, 2000, 2003, 2008 Win 7, Vista, Win 8.x, 10 Linux and Mac OS

Logic Level Voltage
Selecting Switch

To Host USB2.0
Port (Type-A)

TTL/CMOS Serial
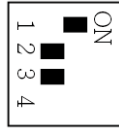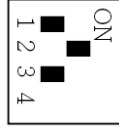Port, with TB-5
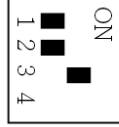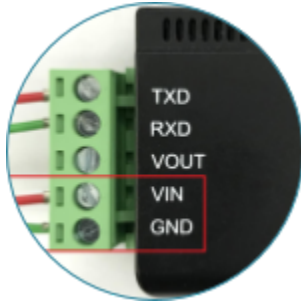Terminal Blocks
Connector

3. Jumper Settings

The configuration of the Adapter Cable is made via a DIP switch as shown by the following picture. The pin#1 to 3 is for non-Isolated version only. Pin#4 is dedicated for the isolated version only.
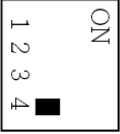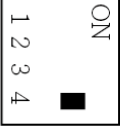
Pin#1 to 3 are for
the Non-Isolated
Version Only

Pin#4 is for the
Isolated Version
Only

1. **Non-Isolated Version Settings:**

   👉 NOTE:**Only one of the 3 DIP switch pins (pin#1~3) is allowed to be set to ON anytime. Set 2 or more DIP switch pins ON will make the logic level voltage incorrectly merged together and cause the hardware conflict**

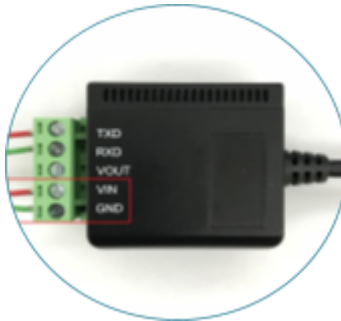| DIP Switch Settings	Description
ON 1 2 3 4 ■ +5V +3.3V VIN IS_3.3V	5V Logic Level (Default)
ON 1 2 3 4 ■ +5V +3.3V VIN IS_3.3V	3.3V Logic Level
ON 1 2 3 4 ■ +5V +3.3V VIN IS_3.3V	Logic Level is determined by the external DC voltage value applied on the Pin#4 of the 5-pin Terminal Blocks. If 2.5V is applied, then the Logic level is set to 2.5V

1. **Isolated Version Settings:**

   The Isolated version setting is very simple, only 5V or 3.3V depends on the Pin#4 DIP switch settings. The default is set at 5V.

DIP Switch Settings	Description
ON 1 2 3 4 ■ +5V +3.3V VIN IS_3.3V	5V Logic Level (Default)
ON 1 2 3 4 ■ +5V +3.3V VIN IS_3.3V	3.3V Logic Level

4. Plugging the Adapter Cable

1. Plug the USB Type-A end of the Adapter Cable into the USB host port of your PC or into an available USB port on a USB hub.

2. Connect the RS232 Serial Device to the TB-5 connector of the Adapter Cable.

3. The default logic level of this Adapter Cable is 5V. If your Serial Device's logic level is not 5V, you need to change the DIP settings to match it.
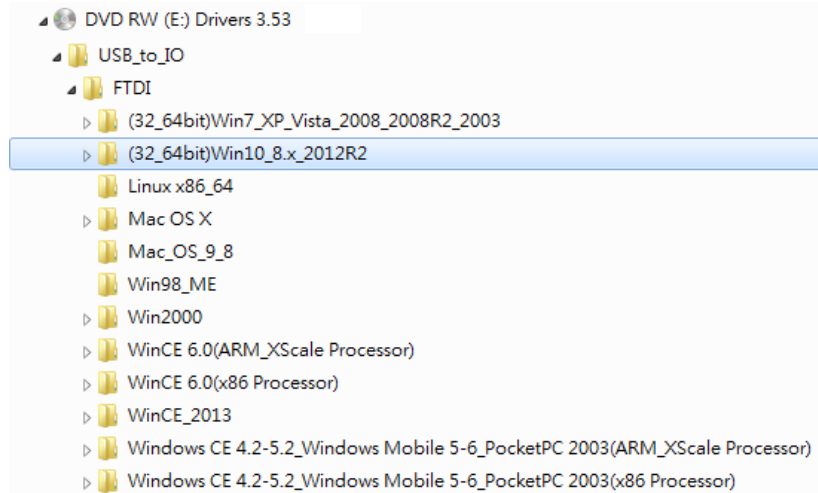

4. Proceed with the next section "Installing Drivers" to install the virtual COM port drivers for your Operating System.

5. Installing Drivers

The Adapter Cable can be hot-plugged to the USB port of your computer due to the specifications of USB. It supports the following operating systems. The drivers are shipped in the following folder on the supplied driver CD.
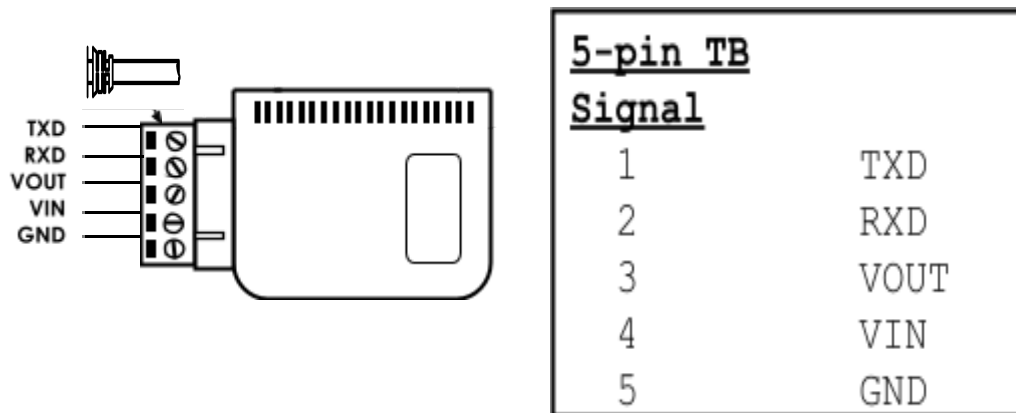
1. **Driver Locations on the CD**

These instructions are for installing the drivers from the CD supplied with the product. If you are installing Windows drivers, when prompted for the location of the drivers, specify your CD-ROM drive and the locations according to the following table

2. **Installing Drivers with Installer:**

■ Insert the Driver CD supplied with the Adapter Cable.

■ Run (or double click) the Installer Program (e.g. **CDM v2.12.06 WHQL Certified.exe**) in the corresponding folder for the OS on the driver CD:

■ Follows the instructions of the installer program to complete the setup procedures.

■ Plugging the Adapter Cable will hook the drivers into the Windows kernel automatically.

6. 5-pin Terminator Block Pinouts and Cable Wiring

5-pin TB Signal	
1	TXD
2	RXD
3	VOUT
4	VIN
5	GND

NOTE: Pin#3 (VOUT) of the TB-5 connector is an output voltage which indicates the logic level it is working at. Check the voltage value between it and the GND pin (TB-5's pin#5) will verify if this Adapter Cable is working at the correct logic level you want.

7. Environmental Specifications

Power requirements:	5V DC, 135mA (max)
Operating temperature:	0 to 55°C (32 to 131°F)
Operating humidity:	5 to 95% RH

Contact Us:

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Clearwater, Florida 33760 U.S.A.	**Fax:** 1 727-209-1302

Safety	• Read the entire Installation Guide before implementing this product for your application. This guide contains important information about electrical connections that must be followed for safe and proper operation. • Inspect the product closely for visual defects before putting it to use. • Keep away from areas where moisture builds, this product contains electrical components that can be damaged by moisture build up, this can adversely affect your equipment connected to it. • Do not disassemble the product. Handling the product's internal components can expose it to ESD (Electro-Static Discharge) hazards that can affect the function of the device. • If this product is not functioning properly, email our support team at support@coolgear.com.

USB CHARGING & CONNECTIVITY EXPERTS
Within Every Great Machine

For over 20 years our rugged, off-the-shelf USB hubs, chargers, and serial products are ready to go for your next project. Based in the US, Coolgear has successfully engineered and deployed millions of connectivity solutions into industrial, medical, automotive, commercial, and aerospace industries.

We understand the importance of reliability, build quality, & consider all our customers' applications as critical, wanting to ensure long-lasting event-free integrations.

Compliance Statement

View compliance within the product's respective Technical Data Sheet, found on the product's online listing.

Technical Support

When you reach out to Coolgear support, you'll find yourself in the hands of a solution-oriented and knowledgeable expert ready to answer whatever question you throw at them. If you ever need help with your product, visit coolgear.com/support for support tickets, downloads, and other support resources. For the latest drivers, please visit coolgear.com/download.

Product Standard Warranty

One (1) Year Warranty from Date of Purchase Invoice. Coolgear will repair or replace any Product determined to be defective and which has been returned, at your risk and expense, to Coolgear. Where Coolgear determines in its sole judgment that repair or replacement of such Product is not reasonable, Coolgear will keep the non-conforming Product and refund to you the amount you paid for such Product. Returned Products shall be subject to the balance of the Warranty Period otherwise applicable. Any reconditioned parts used by Coolgear shall be subject to all the same provisions as otherwise applicable to new parts. THE FOREGOING DESCRIBES COOLGEAR'S SOLE LIABILITY, AND YOUR SOLE REMEDY, FOR ANY BREACH OF WARRANTY. IF YOU DO NOT AGREE WITH THE TERMS OF THIS LIMITED WARRANTY, YOU MUST RETURN THE PRODUCTS UNUSED AND IN THEIR ORIGINAL CONTAINERS TO YOUR ORIGIN OF PURCHASE.

Limitation of Liability

This Limited Warranty does not cover: (i) defects or damages resulting from natural causes, casualty, accident, misuse or abuse, neglect, alterations, service or repair by other than Coolgear, including without limitation by you; (ii) improper installation or de-installation, operation or maintenance, improper connections with peripherals or other causes not arising out of defects in the materials or workmanship of Products; (iii) any Product for which the warranty sticker has been removed, modified or defaced; (iv) normal wear and tear; (v) damage to or loss of repaired or replaced Products during shipping by Coolgear except when such damage or loss is caused by poor or inadequate packaging by Coolgear; or (vi) Products purchased outside the United States. UNDER NO CIRCUMSTANCES WILL COOLGEAR BE LIABLE FOR ANY LOSS OF USE, INTERRUPTION OF BUSINESS OR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING LOST PROFITS) REGARDLESS OF THE FORM OF ACTION WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR OTHERWISE, EVEN IF COOLGEAR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE TOTAL LIABILITY OF COOLGEAR HEREUNDER EXCEED THE GREATER OF $50.00 OR THE AMOUNT YOU ACTUALLY PAID FOR THE PRODUCT GIVING RISE TO SUCH LIABILITY, REGARDLESS OF THE CAUSE OF ACTION, IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE. NOT ALL JURISDICTIONS ALLOW SUCH LIMITATIONS OF DAMAGES SO THE FOREGOING LIMITATIONS MAY NOT APPLY TO YOU.