Technical Note

BRTSYS_TN_002

Preparing LDSBus USB Adapter for Modbus & RS485

Version 1.0

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This technical note describes the process of preparing the LDSBus USB Adapter for Modbus and RS485 Applications

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1 Introduction

This technical note describes the steps required to prepare the LDSBus USB Adapter before it can be used with Modbus and other RS485 devices.

2 Description

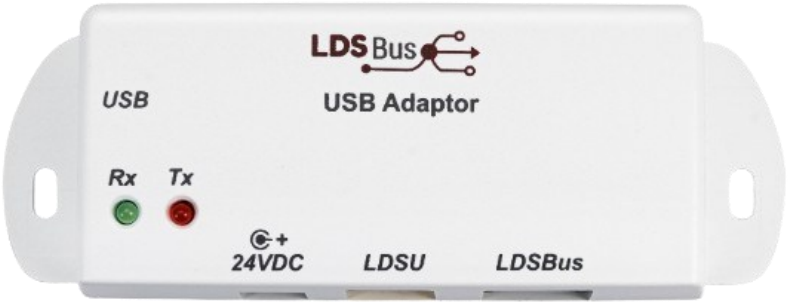


Figure 1 - LDSBus USB Adapter

The LDSBus USB Adapter controls two internal power supply switches, one each for the RJ45 and RJ11 ports. The RJ45 port is labelled as LDSBus and supplies 24VDC and the RJ11 port is labelled as LDSU and supplies 5VDC. When the adapter is shipped from the factory, both switches are off by default.

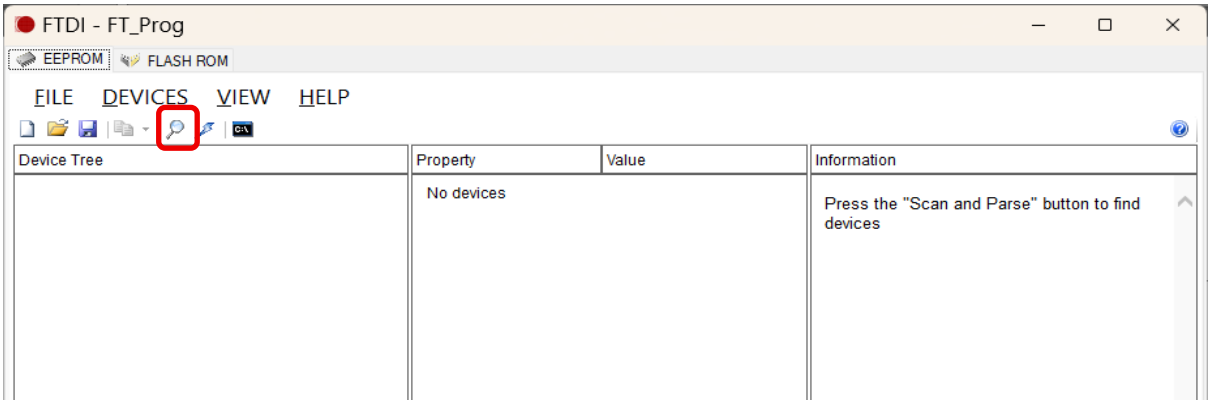
To use the adapter with Modbus and RS485 devices and Modbus software programs, these switches must be modified to be switched on by default. This note describes how to change the setting. After modification, the adapter may still be used with LDSBus, Modbus and RS485 devices.

For more information on the LDSBus USB Adapter operation, please refer to LDSBus USB Adapter Datasheet.

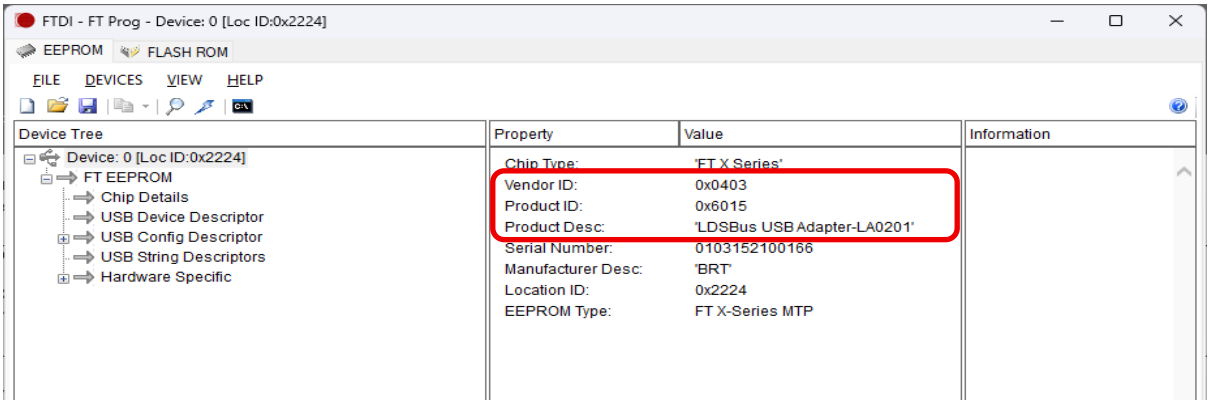
3 Modification Procedure

The LDSBus USB Adapter makes use of an FTDI USB-Serial converter chip. This chip controls the power supply settings that are to be modified.

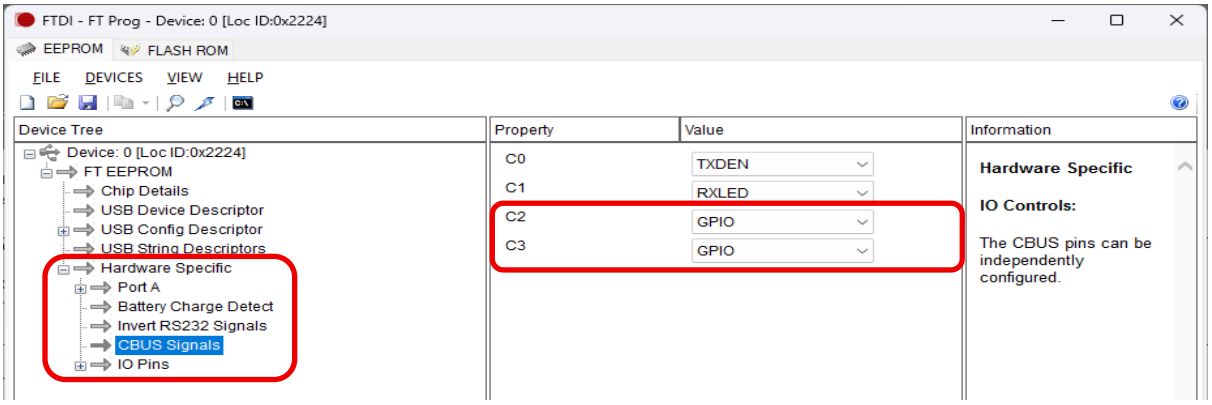
1. Download the FT_PROG tool from the FTDI website.
2. Attach the LDSBus USB Adapter into an available USB port on the computer. For the modification, the 24VDC power supply is not required.
3. Open the tool, select the EEPROM tab and click **Scan** (icon).



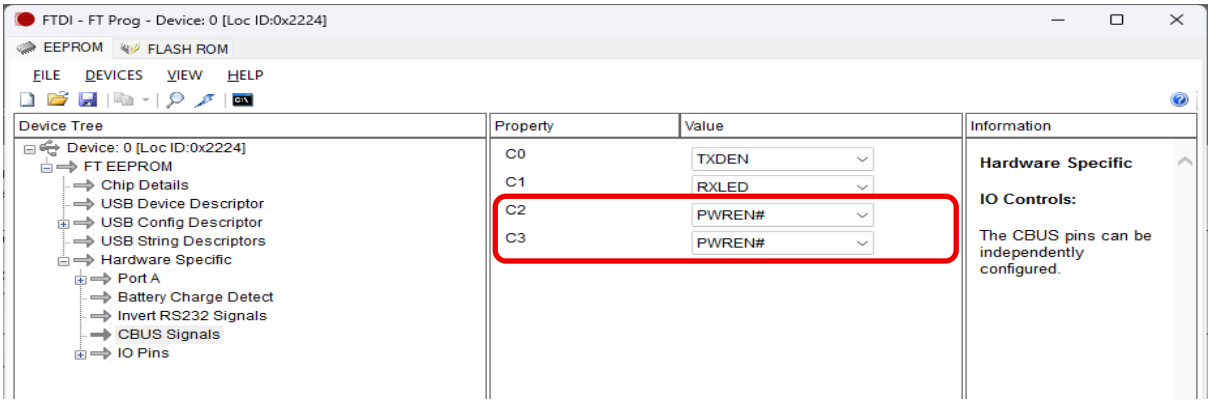
4. Under the **Device Tree** column, select and open each connected FTDI device. Identify the device whose *Product Desc* field in the **Property-Value** pane is listed as "LDSBus USB Adapter-LA0201." This is the device that is to be modified.



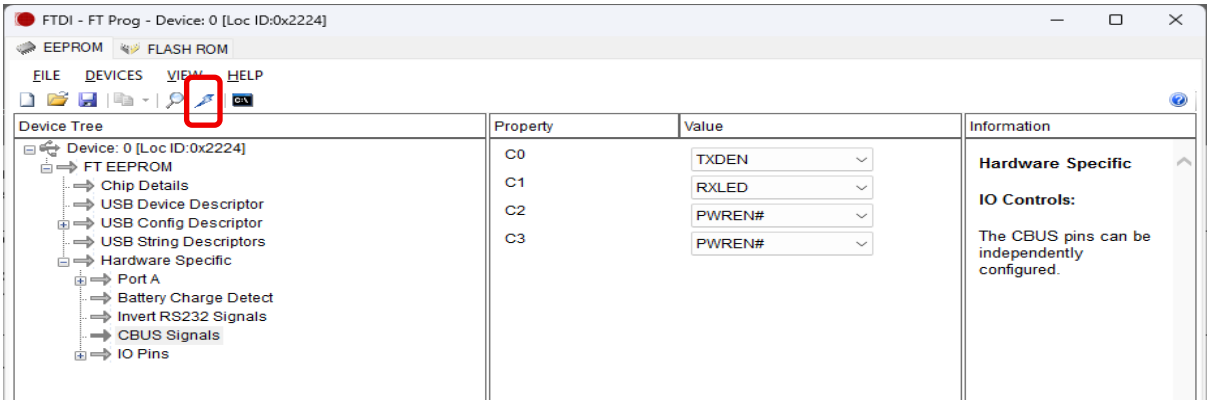
5. Once the device is correctly identified, open *Hardware Specific* > *CBUS Signals* from the Device Tree pane. The CBUS signals (C[3:0]) will be displayed in the right-hand side pane. The default value for C2 and C3 is GPIO as shown below.



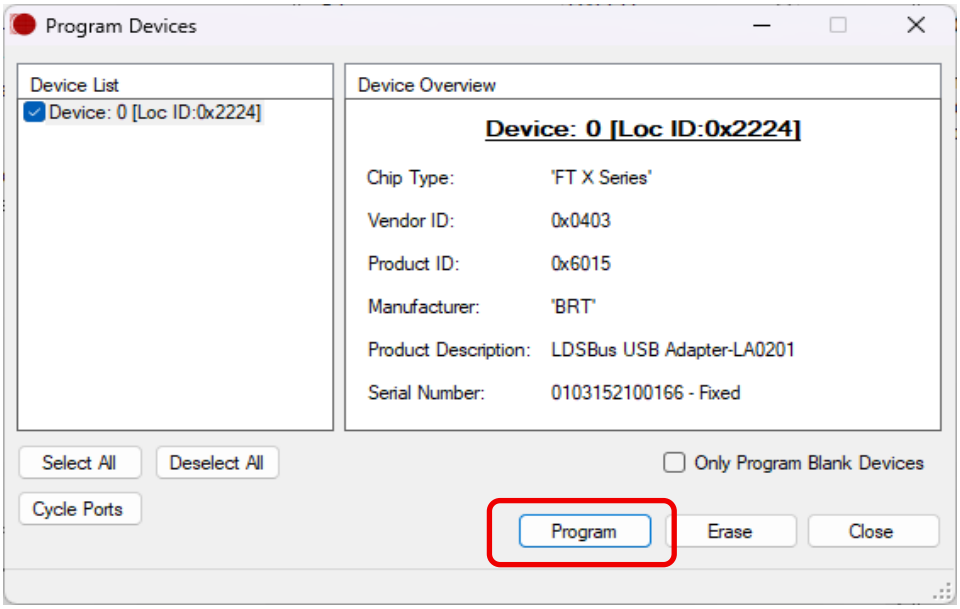
6. Change C2 and C3 value from GPIO to PWREN# for power enable control functionality.



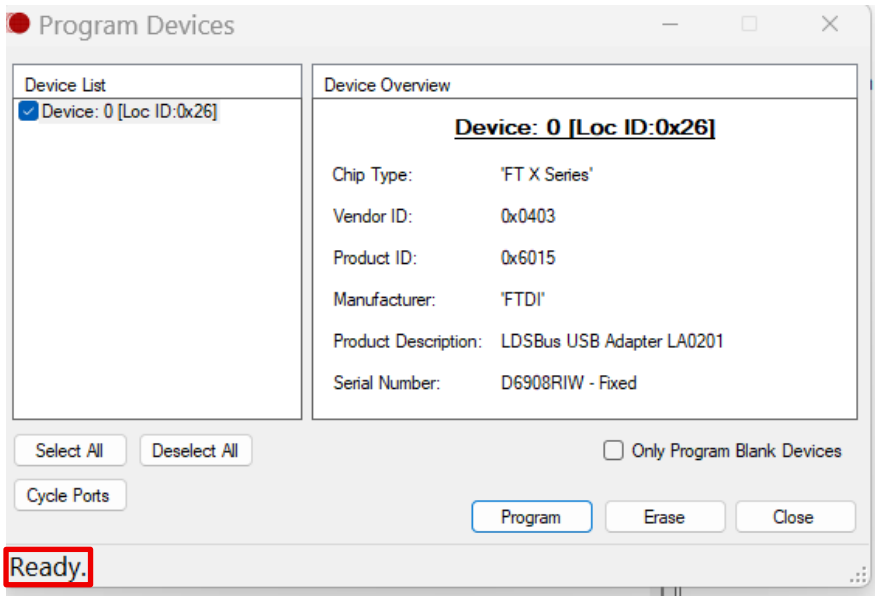
7. Click **Program** (icon)



8. The following screen will be displayed. Verify that the correct device is selected, then click *Program.*

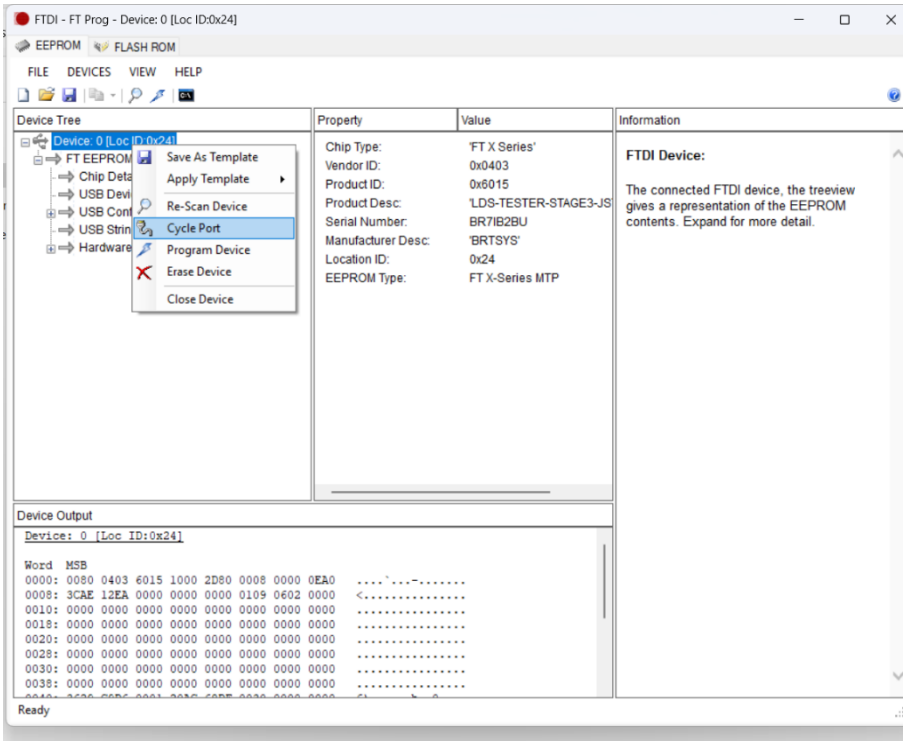


9. Once programming is completed successfully, the next screen will display "Ready" (as shown in figure below), indicating that the modification has been completed.



10. Close the tool, detach the adapter / Cycle Port, and it is now ready for use with both LDSBus and Modbus devices.

11. Verify the programming is successful
    - **Step 1:** Cycle the port (or detach and re-attach the adapter).



    - **Step 2:** Run a scan again (follow step #3) and confirm that the C-Bus signals are updated correctly.

4 Contact Information

Refer to https://brtsys.com/contact-us/ for contact information.

Appendix A – References

Document / Web References

https://brtsys.com/resources/

Acronyms and Abbreviations

Terms	Description
LDSBus	Long Distance Sensor Bus

Appendix B – List of Tables & Figures

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NA

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Appendix C – Revision History

Document Title:	BRTSYS_TN_002 Preparing LDSBus USB Adapter for Modbus & RS485
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Clearance No.:	BRTSYS#129
Product Page:	https://brtsys.com/product/usb-adapter/
Document Feedback:	Send Feedback

Revision	Changes	Date
1.0	Initial Release	03-09-2025