

USB-PMBusEVM-03 + Digital Mediator 2
AVSBus Application Note

1. Overview

This document describes how to use the USB-PMBus adapter "USB-PMBusEVM-03" and the Windows GUI "Digital Mediator 2" to evaluate AVSBus compliant devices.

2. About AVSBus interface of USB-PMBuEVM-03

USB-PMBusEVM-03 works as a master for AVSBus, but it is a simplified version and some parts of the signal quality do not comply with the standard.

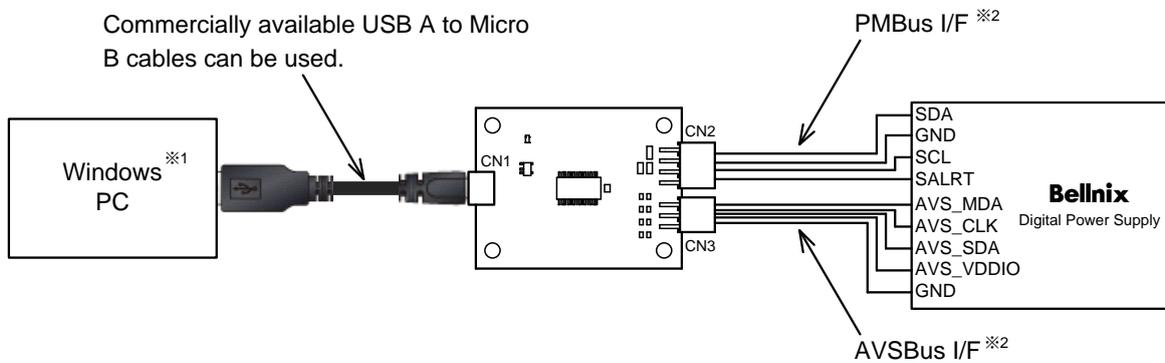
The clock speed is fixed at 8 MHz (typ.) and cannot be changed.

3. Connection example

Connect a Windows PC, USB-PMBusEVM-03, and digital power supply as shown in Figure 1.

In addition, besides USB-PMBusEVM-03, some other peripheral devices are required to connect.

See the connection diagram in the data sheet and/or handling manual of each product.



※1. The driver is automatically installed after the cable is connected.

※2. Refer to "USB-PMBusEVM-03 + Digital Mediator 2 Operation Manual" for pin assignments of CN2 and CN3.

Figure 1. Connection with Digital Power Supply

4. About the Development Tool Screen

4-1. Device View

When using AVSBus, select "AVSBus" by using the radio button in the "Bus" column and set the name of the power supply device to use to Device Name on that row.

Group and PEC columns are not used in AVBus applications.

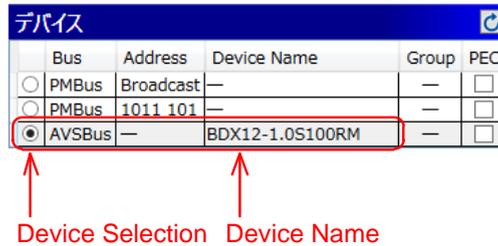


Figure 2. Device View

4-2. Status View

AVSBus Status is monitored and the lamp turns green when normal (corresponding bit is 0 or 1 for the VDone bit) and red when abnormal (corresponding bit is 1 or 0 for the VDone bit).

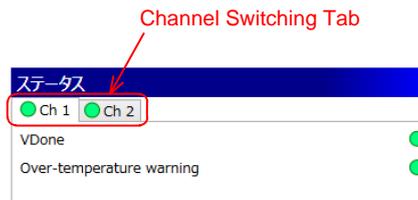


Figure 3. Status View

• Channel Switching Tab

Switches the channel to display status.

The lamps on the tabs are green when all lamps in the tab are green, and red when even one lamp is red.

4-3. Command View

A list of supported AVSBus commands is displayed.

When you hover the mouse cursor over a command name, a tooltip appears to give you a brief description of each command.

To change the output voltage by AVSBus, the Voltage Command Source bit (bits 5:4) of the PMBus OPERATION command must be set to 11b. For details, please refer to the datasheet or instruction manual of each product.

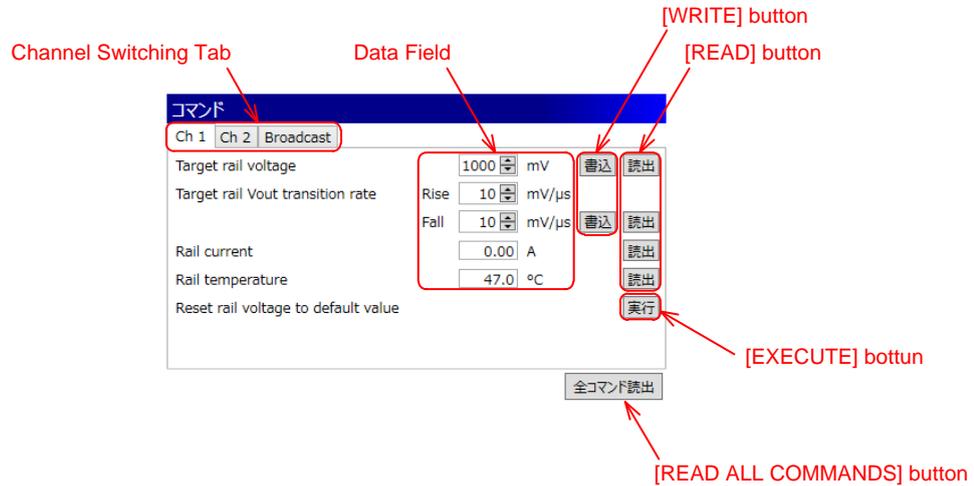


Figure 4. Command View

- **Channel Switching Tab**
Switches the channel on which the command is displayed.
In [Broadcast], commands for all output channels are displayed.
- **Date Field**
Inputs and outputs "real world values" expressed in units such as V, A, and °C in decimal.
Fields without up/down buttons cannot be rewritten.
- **[WRITE] button**
Converts the value in the data field to AVSBus data format and writes it to the device.
- **[READ] button**
Reads from AVSBus, converts the read value to a "real value" and displays it in the data column.
- **[EXECUTE] button**
Execute the command.
- **[READ ALL COMMANDS] button**
Reads all commands displayed in the command view that can be read.

4-4. Graph View

Displays monitored values such as output current, temperature, etc. in a graph.

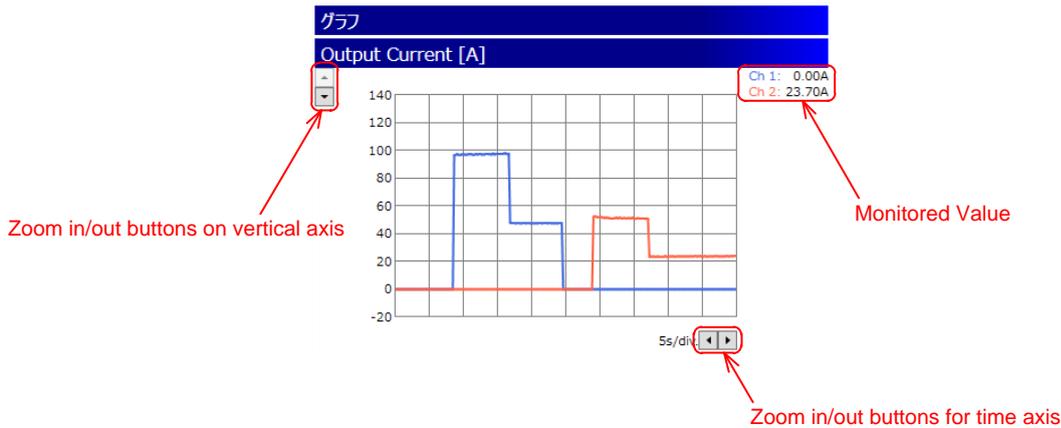


Figure 5. Graph View

- **Zoom in/out buttons on vertical axis**

Zooms in and out on the vertical axis of the graph. After clicking, AutoRange is released and the graph display range is fixed.

- **Zoom in/out buttons for time axis**

Zoom in and out of the time axis of the graph.

4-5. Status Bar

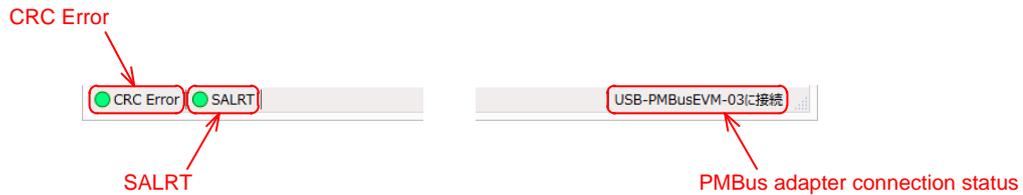


Figure 6. Status Bar

- **CRC Error**

When a command is read or written, the lamp turns green when the CRC is normal and red when there is a CRC error.

- **SALRT**

The PMBus SALRT line is monitored and the lamp turns green when normal (High) and red when abnormal (Low).

- **PMBus adapter connection status**

Whether the USB-PMBusEVM-03 is connected or not is displayed.

5. Inquiry

For inquiries in regard to this manual, USB-PMBusEVM-03, or Digital Mediator 2, please contact the distributor who you purchased the product from or our sales department (<http://www.bellnix.co.jp/contact.html>).