RENESAS

ISO-DONGLE1Z

User's Manual: Communications Dongle

Battery Management Systems

Renesas Electronics Corporation
www.renesas.com

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ISO-DONGLE1Z

Communications Dongle

The ISO-DONGLE1Z is a USB to I^2C conversion dongle that facilitates communication between various Renesas battery management evaluation kits and GUIs. To check if an Evaluation Kit is compatible with the ISO-DONGLE1Z, see the appropriate evaluation kit user's manual for further information.

The ISO-DONGLE1Z is designed to electrically isolate the connected assembly ground of the evaluation board from the PC ground. Most Battery Management Systems (BMS) operate isolated from earth ground. For example, when an oscilloscope is connected to a BMS assembly it can provide a path to earth ground, which in severe cases can reset the BMS. Renesas recommends that the BMS assembly ground is provided a connection to earth ground before a test system, oscilloscope, communications dongle, or other powered items are connected.

Key Features

- Compatible with a range of Renesas BMS evaluation kits and GUIs
- Performs I^2C communication using USB port
- Electrical isolation allows for accurate evaluation of BMS ICs
- Plug-and-go operation - no drivers required

Ordering Information

Part Number	Description
ISO-DONGLE1Z	Isolated USB to I^2C conversion dongle

Related Devices

Part Number	Description
ISL94202EVKIT1Z	ISL 94202 evaluation kit, includes standard dongle
ISL94203EVKIT1Z	ISL 94203 evaluation kit, includes standard dongle

Related Literature

For a full list of related documents, visit our website:

ISL94202, ISL94203 device pages

1. Functional Description

The ISO-DONGLE1Z is shown in Figure 1. To begin, connect the dongle to a computer with the included USB cable. The button on the board, labeled **SW1**, resets the MCU on the dongle. Pressing this button is occasionally necessary when an unexpected error occurs either on the evaluation board side, such as a loss of power during communication, or a crash on the PC side. Disconnecting the dongle from the evaluation board and the PC also resets the dongle MCU.

The user's manual for all Renesas BMS GUIs provides additional information on the steps required to use the dongle to communicate between a target GUI and evaluation kit. Most evaluation boards should be powered before the dongle is connected.
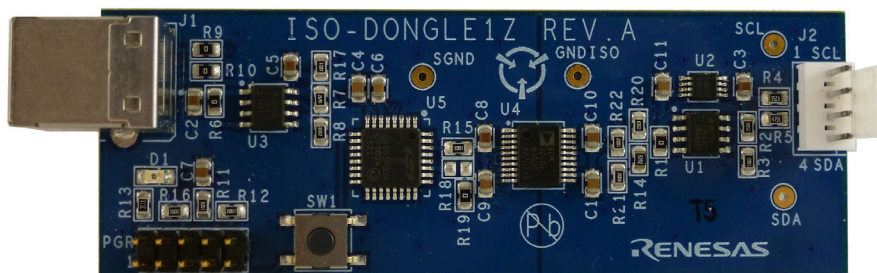

Figure 1. ISO-DONGLE1Z Board

1.1 Configuration for 3.3V Devices

By default, the ISO-DONGLE1Z is configured to work with the ISL94202 and ISL94203, which operate with 2.5 V logic. For compatible devices with 3.3V logic, replace R2 in Figure 2 with a 16.9kΩ resistor.
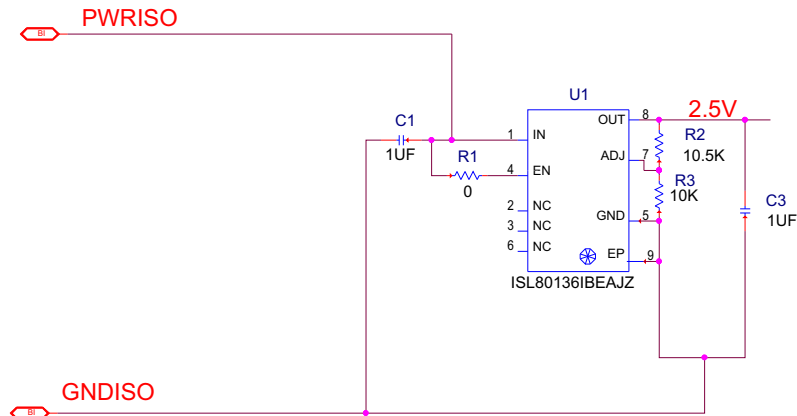

Figure 2. Configuration for 3.3V Devices

2.   Revision History

Rev.	Date	Description
1.00	Aug.1.19	Initial release

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