LV8548MCSLDGEVK, LV8702VSLDGEVK

Motor Driver Module Solution Kit Errata List

ON Semiconductor®

ERRATA

REVISION HISTORY

The GUI software (ON_MD_Module_Kit_GUI) has function to show its version and the API library used in the GUI firmware which is connected to the GUI. This information can be obtained by clicking [HELP] → [About] on the menu bar of the GUI window.

The following spread sheets give the malfunction information of the software and hardware revisions. Check marks (✓) indicate corresponding errata of the revisions.

Module Independent Eratta

GUI

Table 1. LV8548STEP

Errata #	GUI Version	
	Rev 1.0.0.0	**Rev 2.0.0**
GUI_RANGE1	✓	✓
GUI_RANGE2	✓	✓
GUI_RANGE3	✓	✓
GUI_RANGE4	✓	✓
GUI_RANGE5	✓	✓
GUI_RANGE6	✓	✓

Table 2. LV8702

Errata #	GUI Version
	Rev 2.0.0
GUI_RANGE1	
GUI_RANGE2	
GUI_RANGE3	✓
GUI_RANGE4	✓
GUI_RANGE5	✓
GUI_RANGE6	✓

Module Dependent Errata

LV8548

Table 3. DOCUMENT

Errata #	GUI Version
	Rev 1.0
DOC_APPENDIX1	✓

MODULE DEPENDENT ERATTAS

GUI

Detailed Information of the Malfunctions

- **GUI_RANGE1 (LV8548Step)**
  - ♦ Feature:
    In debug mode (the mode operated by GUI), motor rotations whose specified angles are larger than 656 degree are not available by the GUI.
  - ♦ Description:
    In debug mode, the connected stepper motor does not rotate under the condition that "Transfer Unit" is set to "Degree" and "Transfer time" is set to larger than 656 deg. by the GUI. This malfunction originates from the limitation of the communication format used between the GUI and the Arduino. This angle limitation does not occur if the API function motorRotationDeg is called directly on the Arduino*.

    *Values up to 65536 deg. are available in this condition.

  - ♦ Workaround:
    In debug mode, please refrain from conducting rotations whose specified angles larger than 656 degree by the GUI. Although the connected motor does not rotate in this condition, the input commands themselves are logged by the GUI and can be generated to be a sketch using the code generation function. It is possible to rotate the motor with the specified angles larger than 656 deg. by compiling this sketch and installing it into the Arduino.

- **GUI_RANGE2 (LV8548Step)**
  - ♦ Feature:
    In debug mode (the mode operated by the GUI), motor rotations whose specified step numbers are larger than 6554 steps are not available.

- Description:

  In debug mode, the connected stepper motor does not rotate under the condition that "Transfer Unit" is set to "Step" and "Transfer time" is set to larger than 6554 steps by the GUI. This malfunction originates from the limitation of the communication format adopted between the GUI and the Arduino. This step number limitation does not occur if the API function motorRotationStep is called directly on the Arduino*.

  *Values up to 65536 are available in this condition.

- Workaround:

  In debug mode, please refrain from conducting rotations whose specified step numbers are larger than 6554 step by GUI. Although the connected motor does not rotate in this condition, the input commands themselves are logged by GUI and can be generated to be a sketch using the code generation function. It is possible to rotate the motor with the specified step number larger than 6554 deg. by compiling this sketch and installing it into the Arduino.

- GUI_RANGE3 (LV8548Step/LV8702)
  - Feature:

    In debug mode (the mode operated by the GUI), the rpm value for "Motor Speed" can erroneously be set to be lower than the supported lower limit of the API function's index by the GUI.
  - Description:

    In debug mode, the rpm value of "Motor Speed" can erroneously be set to be lower than 1[step/s] by the GUI even though the API doesn't support motor rotations at the speed slower than 1[step/s].

    This malfunction originates from the disagreement of the valid value range between rpm value in the GUI (1～65535[rpm]) and step/s value (1～4800[step/s]) in the API function.

    Inside the GUI, input rpm value is converted to step/s value and the step/s value is sent to the Arduino Micro (API). For instance, if Step Angle is set to 7.5[Degree], 1[rpm] is converted to 0.8[step/s]

    Because motor rotation speeds slower than 1 [step/s] is not supported by the API function, this command is ignored. With this malfunction, GUI doesn't report any error.
  - Workaround:

    In debug mode, please refrain from setting rpm to 1[rpm] by the GUI.

- GUI_RANGE4 (LV8548Step/LV8702)
  - Feature:

    In debug mode (the mode operated by the GUI), the displayed decimal value input as a motor speed value differs from the internally processed value.
  - Description:

    In debug mode, the Motor Speed input box displays the

rounded off input value as an integer value, but that value is internally input and processed as a decimal value rounded off to one decimal place.

In standalone mode (the mode operated solely by the API functions), the related API function supports all available float type values as motor speed indices. Even in this case, no motor speeds lower than 1[step/s] is available. (*i.e.* rotation with frequencies higher than 1 Hz).

- Workaround:

  When inputting values in the Motor Speed input box, please keep in mind that the values input will be rounded off to one decimal place. Confirm the intended value was input to the API function from the Log or the result of code generation.

- GUI_RANGE5 (LV8548Step/LV8702)
  - Feature:

    Although the GUI rounds down the decimal places of the input step number for "Transfer Unit" internally, decimal step number values can be input and displayed in the Input box.
  - Description:

    The GUI supports decimal step number values input in the "Transfer Unit" box and the API function motorRotationStep supports float values input for the step index. Regardless these features, the function motorRotationStep, however, rounds down the decimal places of the step numbers when generating motor driving step pulse.
  - Workaround:

    Please input integer step number values in the "Transfer Unit" box.

- GUI_RANGE6 (LV8548Step/LV8702)
  - Feature:

    In debug mode (the mode operated by the GUI), "Degree" value for "Transfer Unit" can't be changed in units smaller than the step angle.
  - Description:

    In debug mode, "Degree" value for "Transfer Unit" value can only be set to the angles which are multiples of the step angle. By using Half Step or Quarter step excitation sequences, stepper motors can rotate by degrees which are multiples of (step angle) /2 or (step angle)/4. The GUI, however, does not support these angles and only supports rotation with the angle in units of the step angle.
  - Workaround:

    This restriction doesn't limit "Steps" value for "Transfer Unit" or parameters input to the API functions. Please use these to rotate the connected motor by degrees in units smaller than the step angle.

Base Board
  No errata.

INDIVIDUAL MODULE ERRATAS

LV8548

API

No errata.

Document

- DOC_APPENDIX1
    - ◆ Feature:

      Auto code generation function automatically inserts delay(DELAY) instead of delay(0) between each API operation in the generated program (Only in GUI Version 2.0.0).
    - ◆ Description:

      "Quick Start Guide – Appendix" says

      > 2) Using the generated Arduino program
      > After each API operation in the generated program,
      > a delay(0) is inserted.

      GUI Version 2.0.0, however, uses a macro "DELAY" as indices of delay()s. The macro "DELAY" is defined as below (3000 means 3 seconds).

      > #define DELAY 3000

    - ◆ Workaround:

      Please change the value of the macro "DELAY" or input other appropriate values as indices of delay()s directly if needed.

Module

No errata.

LV8702

API

No errata.

Document

No errata.

Module

No errata.