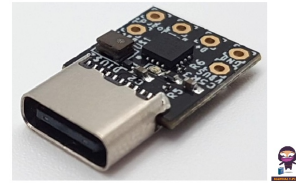v2 Seedling
USB Module

SABERTEC v2 Seedling Seedling USB Module Instruction Manual
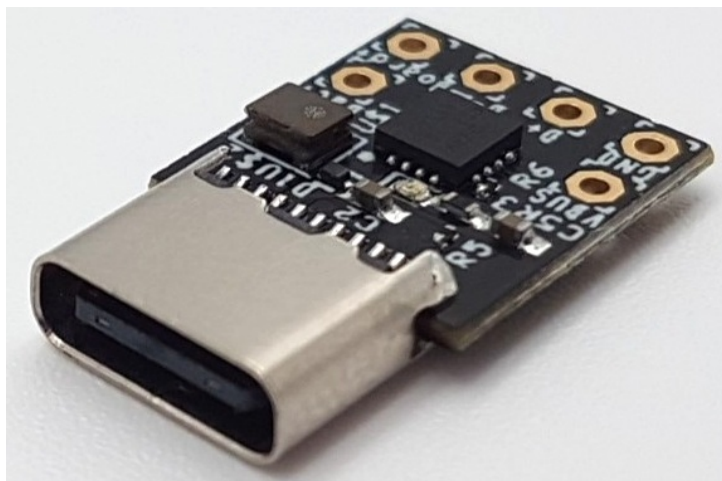
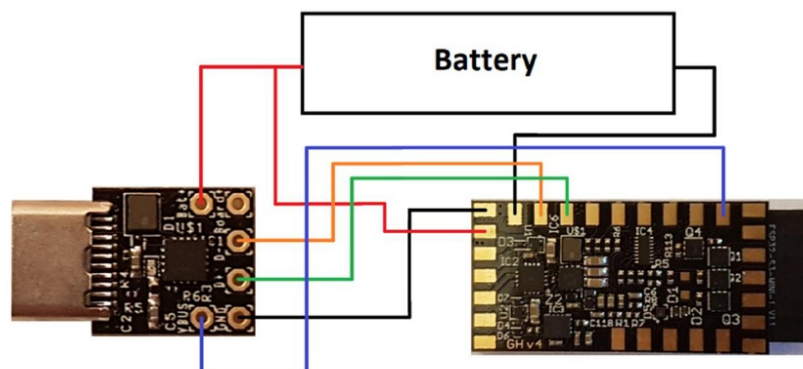**Contents**

SABERTEC v2 Seedling Seedling USB Module

Introducing the Seedling v2, a compact and powerful solution for charging single-celled Li-ion batteries and

accessing the SD card on your Golden Harvest board via USB-C.

Key features include:

- **Ultra-Compact Design**: Dimensions smaller than 18 mm x 11 mm (0.708″ x 0.433″)
- **Seamlessly Integrated:** Incredibly thin board, which is fully inserted into the USB-C connector, ensuring no protrusion below the connector for a sleek and space-saving design
- **USB-C Connectivity:** Equipped with a robust USB-C connector
- **Intelligent Charging:** Implements a smart charging algorithm
- **High Charging Current:** Supports a maximum charging current of 2A
- **Adaptive Current Detection:** Automatically adjusts to the maximum current your wall adapter can provide
- **Charging Indicator LED:**
    - Constantly on while charging with maximum current
    - Blinks under the following conditions:
    - No battery detected
    - Bad battery detected
    - Charging suspended due to safety timer expiration
    - Reduced charging current due to high temperature
- **Comprehensive Safety Mechanisms:**
- **Overheating Protection:**
    - Automatically shuts down at 125° C
    - Reduces charging current at high temperatures
- **ESD Protection:** Safeguards the USB data lines
- **Bad Battery Detection:** Prevents charging if a damaged battery is detected
- **Automatic Charging Termination:** Stops charging when the battery is fully charged
- **SD Card Access via USB:**
    - Recognized as a mass storage device
    - Allows changing settings and sound fonts on the SD card
- We recommend using Panasonic NCR18650B or Keeppower 18650 batteries, which have been thoroughly tested with the Seedling v2. We cannot guarantee support for other batteries. Please avoid using Li-Ion batteries without a built-in protection circuit for optimal safety and performance.

Wiring

The provided wiring diagram details the connections for the Golden Harvest v4. For basic charging functionality,

only the black (ground) and red (positive) wires are essential. These wires establish the primary connection required to charge the battery.

Additionally, the diagram includes optional wires that serve specific purposes:

1. **Orange and Green Wires:** These are necessary only if you intend to enable USB file transfer capabilities. Connecting these wires allows for data communication between the Golden Harvest v4 and a computer.
2. **Blue Wire:** This wire is also optional and is used for the enhanced charging detection feature of the Golden Harvest v4. When connected, it enables the device to play sounds, indicating the start of the charging process and its completion.

3D Models Available for Download

To assist with the integration into your designs, we provide 3D models of the Seedling v2 in both .step and .stl formats. These models are ideal for ensuring accurate fit and alignment within your projects:

- Download the .step file here: **https://drive.google.com/file/d/1JxQCAxKiX-ZpRZsenJltqFYTMrL3JCcb/view?usp=sharing**
- Download the .stl file here: **https://drive.google.com/file/d/1bg5ecSMp5XtiBSagapjUFXXSvHnGUDX0/view?usp=sharing**. These files provide detailed representations of the Seedling v2, enabling easy integration into CAD software for your custom projects.

Documents / Resources

SABERTEC v2 Seedling Seedling USB Module [pdf] Instruction Manual
v2 Seedling Seedling USB Module, v2, Seedling Seedling USB Module, Seedling USB Module, USB Module, Module

References

- **User Manual**