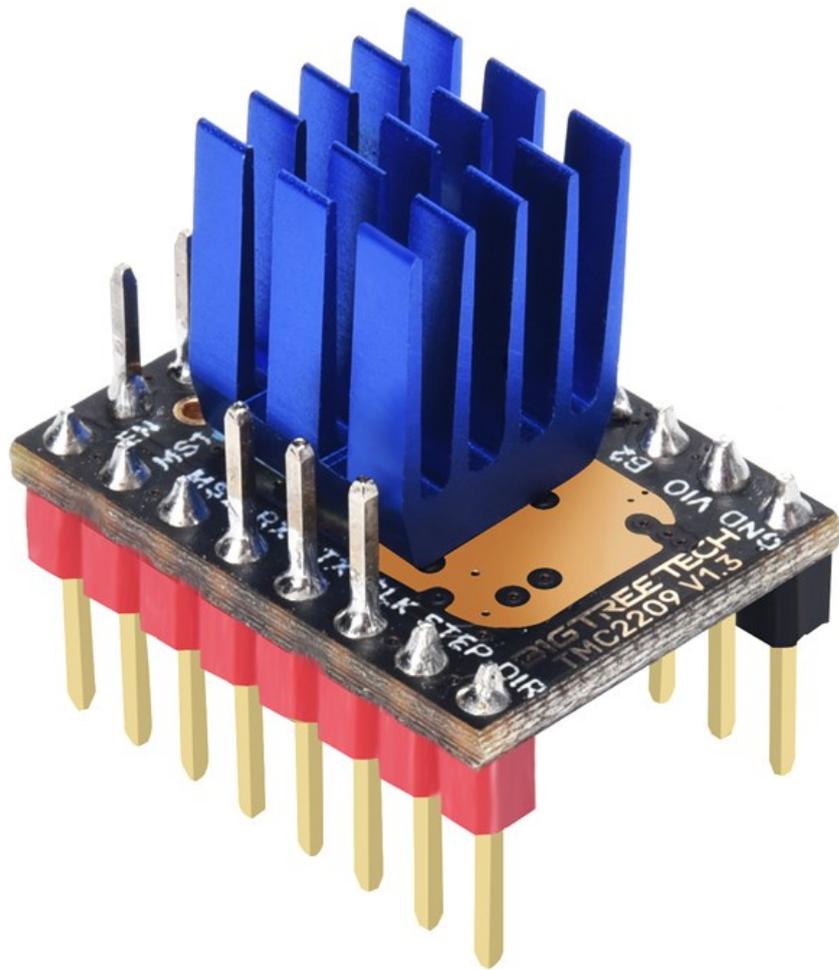


BIGTREETECH

TMC2209 V1.3

User Manual



Revision Log

| Version | Date | Revisions |
|---------|---------------------------------|-----------------|
| v1.00 | January 26 th , 2024 | Initial Version |

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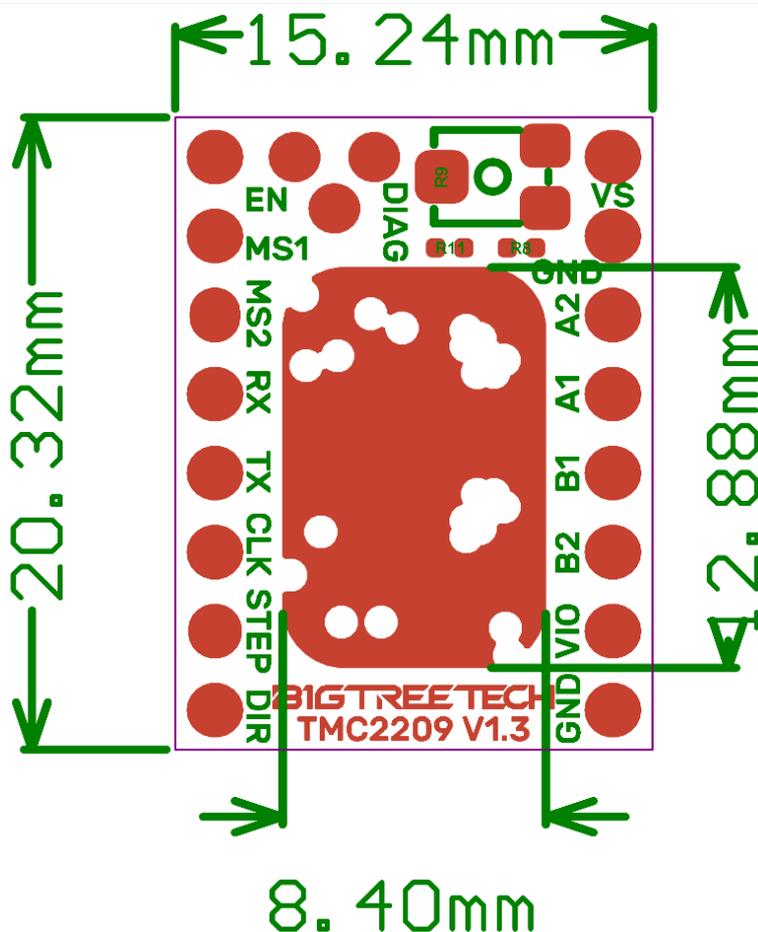
Product Profile

The BIGTREETECH TMC2209 is a highly efficient stepper motor driver known for its silent operation. It's designed to handle a broad range of voltages and can support significant current output.

Specifications

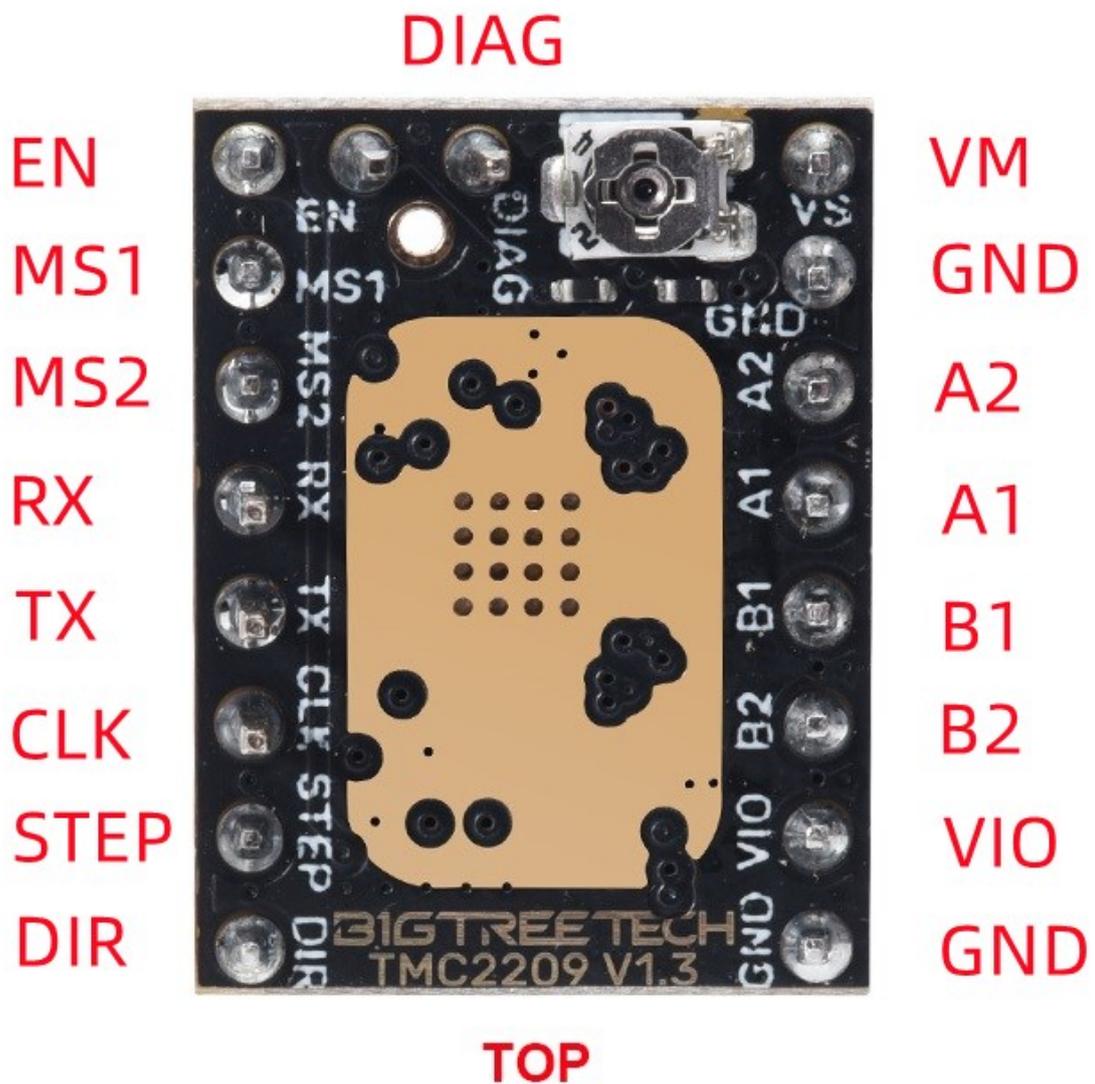
- Microstepping Capability: 256 microsteps
- Voltage Range: DC 12V – DC 28V
- Peak Current Support: 2A
- Sensorless Homing: Supported
- Low on-resistance: $R_{dson}(H+L)=340m\Omega$
- Communication: UART (default)
- Multiprotection: Overheat, overvoltage and stall protection.

Dimension



Peripheral Interface

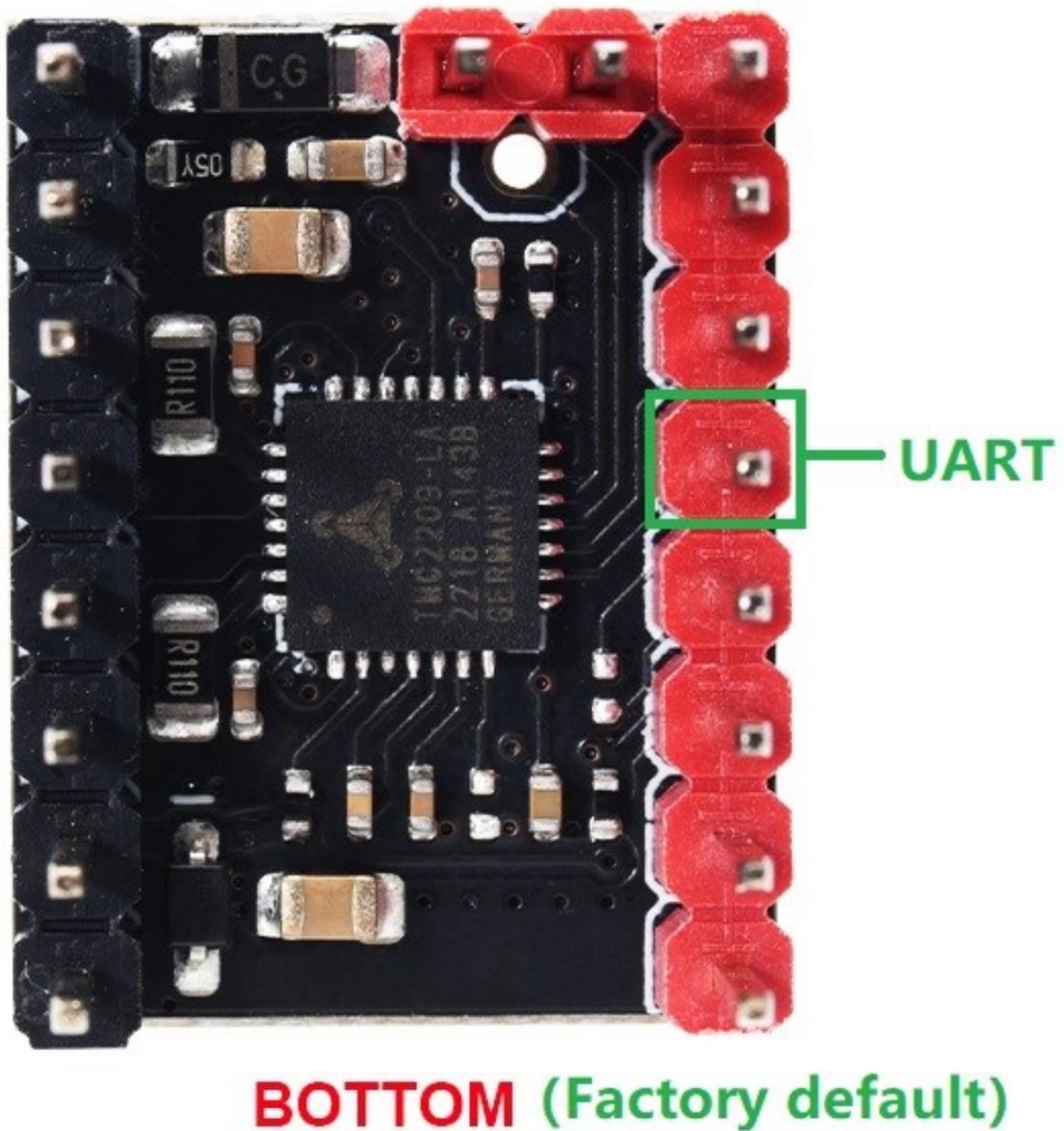
Pin Description



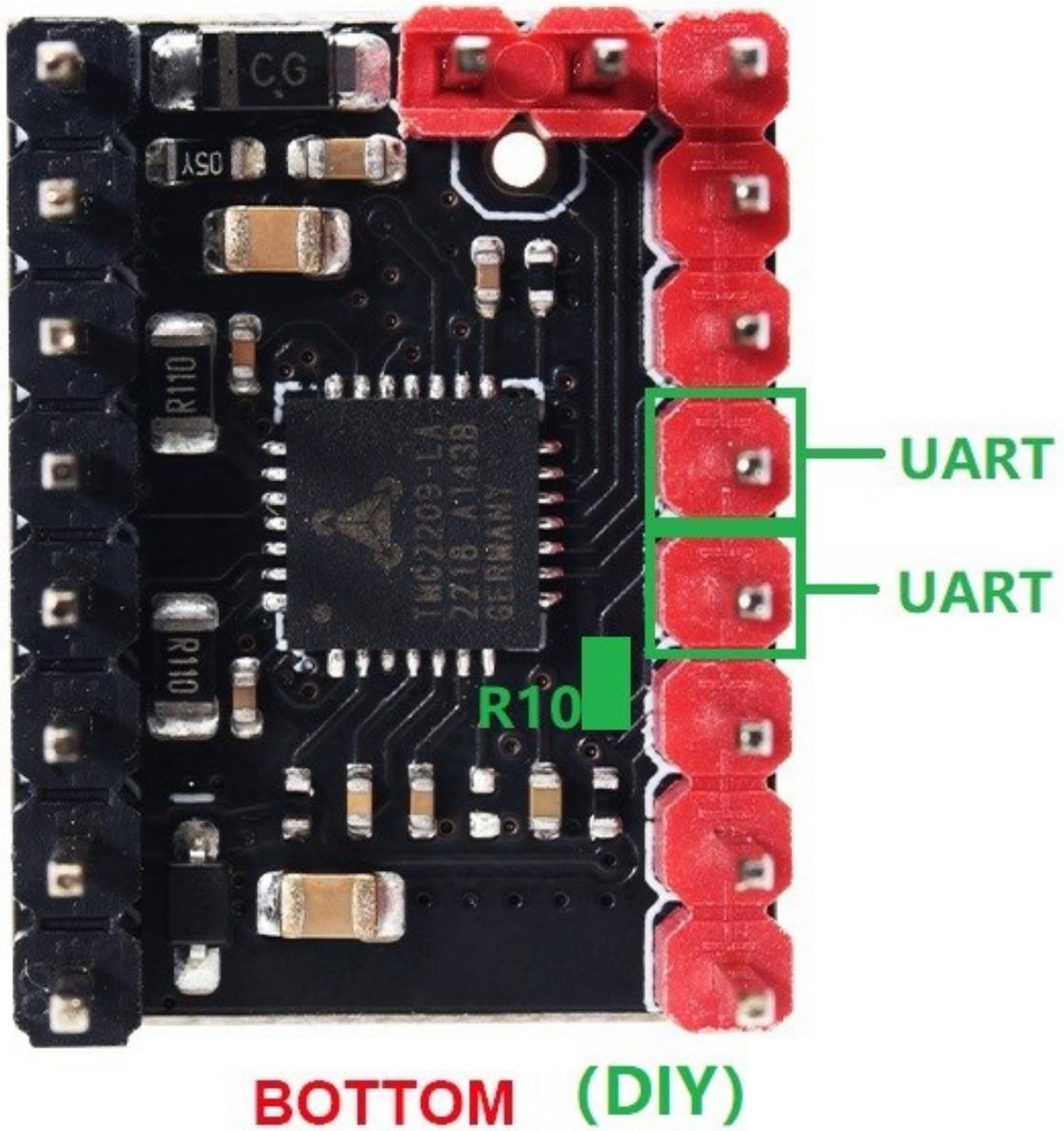
Example of Use

Mode Selection

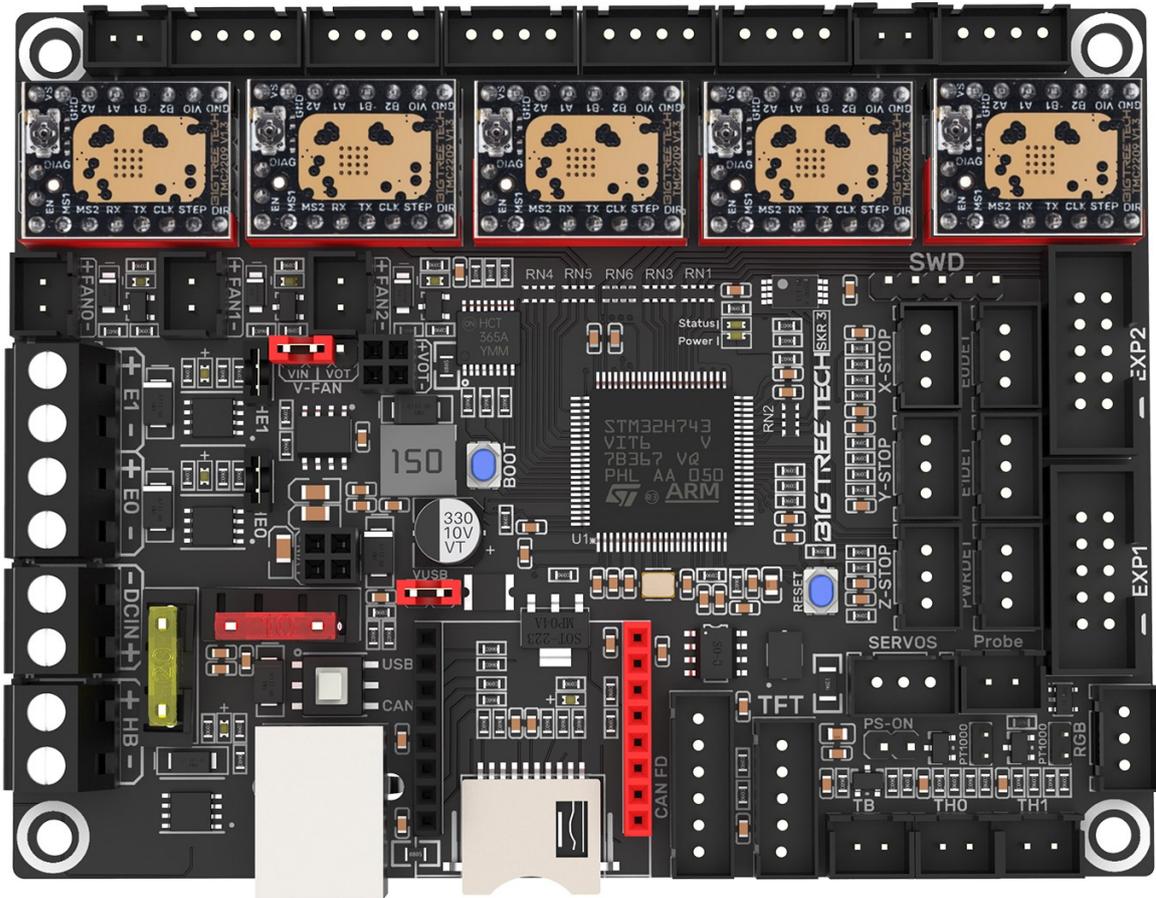
The default mode is UART as shown below:



To alter UART pin assignments for compatibility with different boards, solder the two pads at R10 together as shown:



Using with SKR 3



Safety Precautions

1. Ensure the driver is inserted in the correct direction to prevent damage.
2. Use active cooling when operating at high currents (above 1.2A) to prevent overheating.
3. If you're inexperienced with soldering, it's advised not to attempt it to avoid potential injuries.

If you need further resources for this product, you can find them at [GitHub](<https://github.com/bigtreetech/>). If you cannot find what you need, you may contact our after-sales support(service005@biqu3d.com).

If you encounter any other problems during use or have suggestions or feedback, please contact us. Thank you for choosing BIGTREETECH products.