

# USB-2-SD

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## USB-2-SD



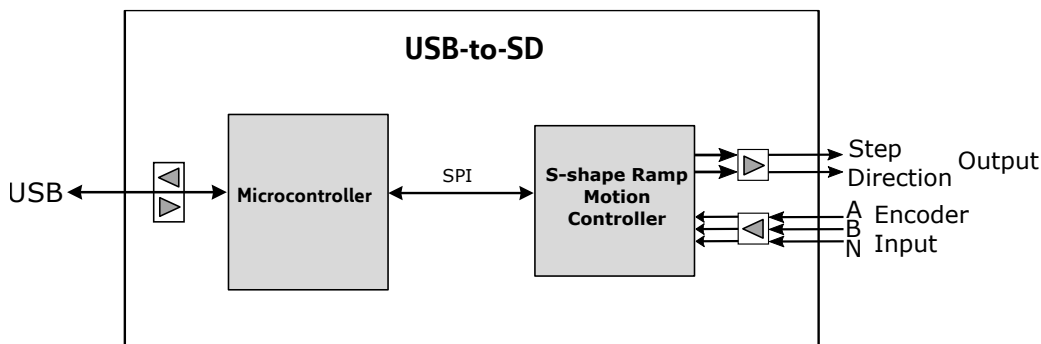
## Description

USB-2-SD is a simple but powerful step & direction signal generator. It simply connects to your PC, laptop, or USB extension cable using a direct USB type A compatible PCB footprint. It is USB-powered. USB-2-SD can be controlled via Trinamic's TMCL protocol and commands and is fully supported by the [TMCL-IDE graphical user interface](#).

USB-2-SD features Trinamic's [TMC4330A-LA](#) fully integrated S-shape motion ramp controller with flexible ramp style support: linear, SixPoint™, s-shape. In addition, an incremental encoder (5V signal level) can be connected to USB-2-SD to read back a motor or joint position.

Additional resources: [USB-2-SD Firmware Manual](#)

## Block Diagram



## Top Side Pins (upper photo)

| Pin | Signal | Description               |
|-----|--------|---------------------------|
| 1   | A      | Quadrature A channel (5V) |
| 2   | B      | Quadrature B channel (5V) |
| 3   | N      | Index channel (5V)        |
| 4   | +5V    | Encoder Supply            |
| 5   | GND    | Ground                    |

## Bottom Side Pins (lower photo)

| Pin | Signal | Description                    |
|-----|--------|--------------------------------|
| 1   | GND    | Ground                         |
| 2   | +3V3   | IO Reference Voltage           |
| 3   | STEP   | Step signal out (3V3 TTL)      |
| 4   | DIR    | Direction signal out (3V3 TTL) |

## Order Codes

| Order Code | Description   | Size (LxWxH)          |
|------------|---|-----------------------|
| USB-2-SD   | USB Step & Direction generator and lab tool, USB A-type PCB connector, <a href="#">full TMCL-IDE &amp; TMCL support</a> | ca. 42mm x 12mm x 5mm |

