

# swissbit®

## Product Fact Sheet

### Industrial USB Flash Drive Module

#### U-500 Series USB3.1 SuperSpeed, SLC

Commercial and Industrial  
Temperature Grade

Date: May 22, 2025  
Revision: 1.02



## Product Summary

- **Capacities:** 1 GBytes, 2 GBytes, 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes
- **Form Factor:** 26.65 x 36.8mm with 2.54mm or 2.00mm connector with keyed pin9
- **Compliance:** Fully compliant with USB specification 3.1 Gen 1 (backward compliance with USB 2.0/1.1)
- **Performance:**
  - Read performance: sequential read up to 175 MBytes/s, random read IOPS up to 3,000
  - Write performance: sequential write up to 90 MBytes/s, random write IOPS up to 1,100
- **Operating Temperature Range:**
  - Commercial: 0 °C to 70 °C
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 100 °C
- **Operating Voltage:** 3.1 to 5.5V
- **Data Retention:** 10 years @ life begin; 1 year @ life end
- **Endurance in TeraBytes Written (TBW) @ Max Capacity:** 3216 (seq. write 128KB); 184 (random write 4KB)
- **Shock/Vibration:** 1,500 g / 50 g (JESD22-B110 / MIL-STD-883H M2007.3)
- **Mean Time Between Failure:** > 3,000,000 hours
- **Data Reliability (UBER):** <10<sup>-17</sup> bits read

## Product Features

- Optimized FW algorithms especially for high read access and long data retention applications
- Designed with sophisticated firmware architecture for industrial and NetCom market especially 24/7 application
- SLC NAND Flash with highest program erase cycles per block
- Patented power-off reliability technology
- Near Miss ECC technology
- Read Disturb Management
- Wear Leveling technology
- Data Care Management
- Mounting hole electrically not connected (optional grounded)
- Fixed drive (USB hard drive, optional removable)
- LED for operation indication
- Write protect switch (optional)
- In-field firmware update
- Swissbit Life Time Monitoring (SBLTM) tool and SDK for SBLTM (on request)

## Why Swissbit?

Swissbit is focused on the design, development, manufacture, and support of leading edge memory and storage solutions for the worldwide OEM/ODM marketplace. As a global supplier, Swissbit recognizes and addresses the higher level of application requirements of today's industrial, Netcom, and automotive customers by providing best-in-class products and services, with uncompromised attention to driving overall value and quality.