

# swissbit®

Product Fact Sheet

## Industrial USB Flash Drive Module

**U-450 Series**  
USB 2.0 High-Speed, SLC

Commercial and Industrial  
Temperature Grade

Date: January 13, 2021  
Revision: 1.01



# Product Fact Sheet

## U-450 Series



### Product Summary

- **Capacities:** 1 GByte, 2 GBytes, 4 Gbytes, 8 GBytes, 16 GBytes
- **Form Factor:**
  - USB 2.0 solid state flash drive for internal 10-pin USB connector terminal (26.65mm x 36.8mm)
  - 2.54mm or 2.00mm connector with keyed pin
- **Compliance:** USB 2.0 High-Speed specification compatible (backward compliance with USB 1.1)
- **Performance:**
  - Read Performance: Sequential Read up to 36 MBytes/s, Random Read IOPS up to 1,900
  - Write Performance: Sequential Write up to 26 MBytes/s, Random Write IOPS up to 1,400
- **Operating Temperature Range:**
  - Commercial: 0 °C to 70 °C
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 3.3V ±5% or 5V ± 10%
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW):**
  - Enterprise Workload: up to 101
- **Shock/Vibration:** 1,500 *g* / 50 *g*
- **High-Performance 32-Bit Processor with Integrated, Parallel Flash Interface Engine:**
  - Single-Level Cell (SLC) NAND Flash
  - Hardware BCH Code ECC (up to 60bit correction per 1024 Bytes)
- **High Reliability:**
  - Mean Time Between Failure (MTBF): > 3,000,000 hours @ 25°C
  - Data Reliability: < 1 non-recoverable error per 10<sup>17</sup> bits read

### Product Features

- Subpage based Flash management for increased endurance & random performance
- Optimized FW algorithms especially for high read access and long data retention applications
  - Proven power fail management for highest reliability
  - Near Miss ECC technology
  - Read Disturb Management
  - Wear Leveling technology
  - Data Care Management
- Detailed S.M.A.R.T. support and extended vendor information
- LED for operation indication
- In-field firmware update
- Swissbit Life Time Monitoring (SBLTM) tool and SDK for SBLTM (on request)
- Controlled BOM & PCN process
- Customized options like registers, removable device, connector options, write protect switch, grounded mounting hole, densities, uploads, label, etc.

### 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.

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