



R I M A G E[®]

Rimage USB Sticks

HIGH PERFORMANCE INDUSTRIAL GRADE QUALITY

The Rimage USB stick, powered by Altec, is an industrial grade super speed USB 3.2 GEN1 removable Flash Disk Drive with USB A Connector (backward compatible with USB 2.0/1.1) and supports various storage capacities.



The Rimage USB 3.2 Flash Drive combines faster data speeds and generous capacity in compact, stylish packaging with industrial grade components. Rimage Flash Drives allow you to record and read your data faster and to be sure that they will not fail for a long time. Shorten production times and lower the risk of defect devices in the field.

With storage capacities up to 1 Terabyte, the drive can accommodate your bulkiest media files and documents. All Rimage Flash Disk Devices are designed to work perfectly with our X5 system, guaranteeing you highest performance and reliability. With the optional WORM feature you are prepared to meet the highest security standards.

SPECIFICATIONS

- Compatible with USB specification revision 3.2 gen 1 and backward
- Support Windows Vista and Windows XP without device driver
- Support Windows 7/8/10 without device driver
- Support MAC OS X and later without device driver (USB 1.1 speed)
- Support MAC OS 10.2.8 and later without device driver (USB 2.0 speed)
- Support MAC OS 10.8 and later without device driver (USB 3.2 GEN 1 speed)
- Support Linux Kernel ver.2.4.0 or above without device driver (USB 1.1 speed)
- Support Linux Kernel ver.2.4.10 or above without device driver (USB 2.0 speed)
- Toggle 2.0 / ONFI 3.0 NAND support
- LPDC ECC engine embedded
- High performance with small form factor PCBA.
- Low power consumption (Normal: 68.8mA; Suspend: 0.9 mA; Read: 203.2 mA; Write: 184 mA)
- Hot plug & play without driver installation
- Powered by USB port, no external power required
- Transfer rate for USB interface:
 - Super speed up to 5Gbit/sec for USB 3.2
 - High speed up to 480Mbits/sec for USB 2.0
 - Full speed up to 12Mbits/sec for USB 1.1
- Operating temperature: 0°C to 70°C
- Humidity: 20% to 90%
- Options: Logo Print, WORM function
- Capacity: 16GB, 32GB, 64GB, 128GB, 256GB
- Performance:
 - Max. Read: 250 MB/s
 - Max. Write: 120 MB/s

AVAILABLE CASES

MOTION USB Stick



Physical Dimensions: 58,5 x 17 x 10,4 mm

SPEEDY USB Stick



Physical Dimensions: 87 x 27 x 9,3 mm

DELTA USB Stick



Physical Dimensions: 58,7 x 17,9 x 8,5 mm

GEAR USB Stick



Physical Dimensions: 58,8 x 17 x 7 mm

For larger projects we are happy to source other cases if needed. But we want to keep the options limited and only feature the cases we have the best experiences with, and that are requested by most of our customers. We do offer commercial grade USB flash products as well, just call us if you need more details. FOR OUR LATEST PRICING PLEASE CONTACT US DIRECTLY.

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INDUSTRIAL VS COMMERCIAL

Low quality commercial grade flash devices are heavily used in private and marketing sectors. The primary concerns for this market segment are price and capacity. Buyers are most likely to purchase the flash storage device with the highest storage capacity at the lowest average unit capacity cost. Product reliability, stability and performance are less concerning to many consumers. Out of this reason manufactures use relative low quality controllers and memory.

Even if a product looks the same quality can change. With every lot as the manufacturer will use different components depending on availability and price. This results in low performance and reliability. Especially if a lot of data is written the performance collapses as the controller cannot manage the data and the memory overheats.

The Rimage **industrial grade** Flash Drive storage focuses primarily on customers which build highly reliable systems that require persistent storage. These systems include industrial measurement and control systems, automotive and other high

reliability systems. Our Flash Drive products focus on product reliability, stability and performance. **Rimage uses a “fixed BOM”, that means all components have always the exact same specifications and quality.** The products must be stable and reliable over the designed operating environmental conditions. Also many applications require high performance. Industrial Grade Flash Devices are higher priced but over lifetime they save a lot of costs due to longer usage time, better performance and less costs caused by product fails in the field.

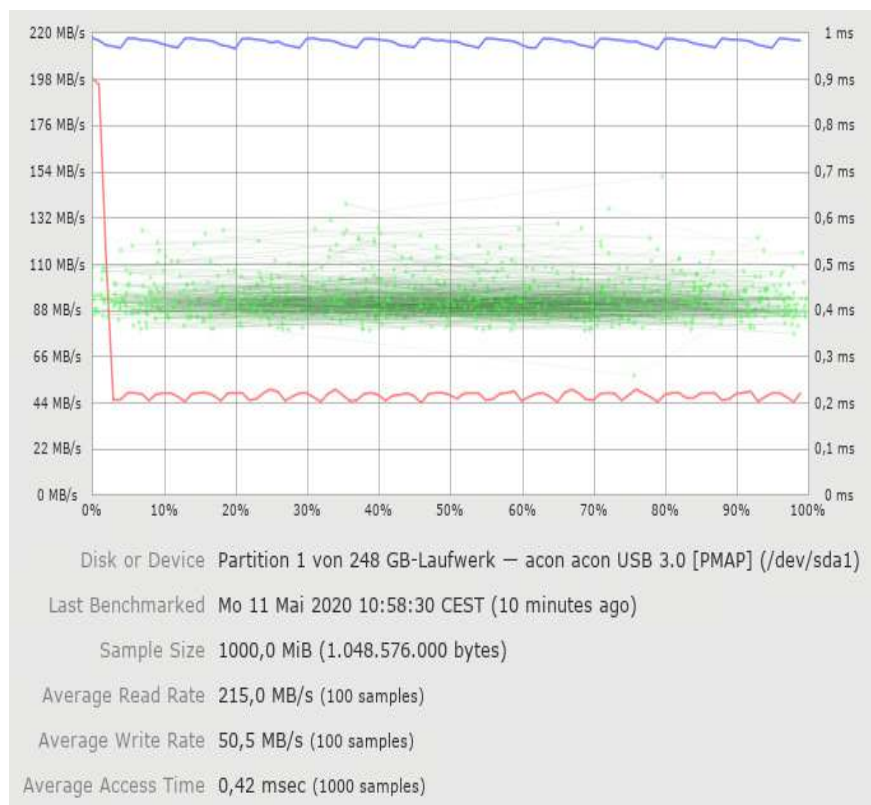
The demands for commercial and industrial markets are somewhat contradictory. Commercial grade USB Flash products are not intended to be used in industry quality products, as they don't meet the requirements for speed, reliability and lifetime.

	Consumer Grade	Industrial Grade
Average write speed	Mostly 1 - 5MB/s	50 MB/s on X5
Average read speed	Often under 20MB/s	215MB/s
Memory / Controller	No Name	Phison
BOM (Bill of Materials)	Variable BOM	FIXED BOM
WORM	NO	YES
Quality	Fluctuates with every order	Always same high quality
Failure rate	high	Very low
Risk of defect at customer	Very high	low
Usage area	Marketing	Marketing, Software, Documentation, Patientdata, Datatransport...
Pro's	<ul style="list-style-type: none"> • Cheap • many case variations 	<ul style="list-style-type: none"> • fast • secure • low failure rate
Con's	<ul style="list-style-type: none"> • very slow • unreliable • high costs caused by defects • not secure 	<ul style="list-style-type: none"> • apparently more expensive • limited case variations

REAL PRODUCTION MEASUREMENTS (TESTED WITH X5 SYSTEM)



Max Write Speed	198,0 MB/s
Max Read Speed	220,0 MB/s
Average Write speed (recording 120GB Data)	50,5 MB/s
Average Read Speed (reading 120GB Data)	215 MB/s
add time needed for Verify in %	23,49
Time to record 120GB in min	41 minutes
Time to Verify 120GB in min	10 minutes
Time to Rec. + ver. 120GB in min	51 minutes
Average Access Time in ms	0,42



RIMAGE QUALITY

- All our products comply with FCC, CE, and ROHS certificates, with BV/TUV international accreditation.
- We are working with leading companies in the USB business to obtain the same quality level as we have with our Rimage Optical Media products. Our long-term, strategic, stable partnerships with key component suppliers ensure very high product quality and reliability.

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