

HRS-X300 SATA SSD

SMART High Reliability Solutions™ HRS-X300 2.5" SATA solid state drive (SSD) combines high performance, superior reliability, and unique data security features into a single design, making it the ideal storage solution for the most demanding defense, industrial automation, transportation, medical and telecommunication applications.

Utilizing a SATA 6Gb interface, HRS-X300 SSDs deliver 500 MB/s sequential read and 440 MB/s sequential write speeds, up to 45,000 random read IOPS and up to 33,000 random write IOPS. Capacities of 60, 120, 240, 480 GB are available using highly reliable single-level cell (SLC) NAND Flash.

SMART's rugged HRS-X300 SSDs are designed to meet the needs of mission-critical applications where high shock, vibration and temperature tolerances are as important as high performance and reliability. A comprehensive set of diagnostic tools is provided through SSD-specific S.M.A.R.T. attributes which can be used to monitor the health of the drive.

Data Security

HRS-X300 SSDs include the Security Erase feature per the ATA-8 specification to easily eliminate all user data from the drive. All data written to the drive is automatically protected with AES 256-bit encryption. Deletion of the encryption key takes less than 1 second and secures all user data as it can no longer be decrypted.

Power Interrupt Protection

A high-reliability power back-up system protects against data loss and corruption in the event of unexpected power interruptions. The power back-up system includes an array of high-reliability discrete capacitors that don't degrade over time or at high temperatures. When power to the drive is interrupted, the power back-up system supplies energy to the drive as it faithfully transfers all user data in cache memory to the flash storage media and executes a normal shutdown sequence to prevent data corruption.

Features

- High Random and Sequential I/O Performance
- SLC NAND Flash for Enhanced Reliability and Durability
- Passes MIL-STD-810G
- Ideal for High Shock, High Vibration and High and Low Temperature Applications.
- Comprehensive S.M.A.R.T. Attributes
- AES 256-bit Encryption Automatically Protects all Data Written to the Drive.

HRS-X300 Product Family

Capacity	Sustained Performance	Random Performance
60, 120, 240, 480GB	500MB/s Read 440MB/s Write	45,000 IOPS Read 33,000 IOPS Write

One gigabyte, or GB, equals one billion bytes when referring to drive capacity. Accessible capacity may vary based on the operating environment and drive formatting.



HRS-X300

HRS-X300 SATA Specifications

2.5" SATA	
Performance	
Burst	600MB/s
Sequential	500MB/s Read, 440MB/s Write
Random	45,000 IOPS Read, 33,000 IOPS Write ¹
Access Time	<1.0 msec
Interface	SATA 6 Gb/s
Capacity	
SLC	60, 120, 240, 480 GB ²
Reliability	
MTBF	1M hours, Telcordia 25°C
Data Reliability	< 1 error in 10 ¹⁸ bits read
Data Retention	10 years @ 25°C
Error Correction (RS)	55 bits for every 512-byte sector
Data Fail Recovery	Recover up to 1 NAND flash erase block of data
Power Interrupt Protection	Array of High Reliability capacitors
Endurance	10,000TB Written ³
Warranty	3 Years
Data Security	
Encryption	AES 256-bit
Elimination	ATA-8 Security Erase
Power	
Input Voltage	5 V +/-5%
Idle (typ)	2.0 W
Active Read/Write	4.5 W/5.5 W
Environmental	
Operating Temp	-40° C to +85° C
Storage Temp	-55° C to +95° C
Operating Shock	50 g half-sine, 11 ms, 3 shocks along each axis: X, Y, Z ⁴
Vibration	16.4 g rms, Jet ⁴
Altitude	24,384m [80,000 ft.] ⁴
Relative Humidity	5% to 95% non-condensing
Mechanical	
Length	100.2mm
Width	69.85mm
Height	9.5mm

(1) Performance throttling may be invoked to ensure 3 year lifetime

(2) One gigabyte, or GB, equals one billion bytes when referring to drive capacity. Accessible capacity may vary based on the operating environment and drive formatting

(3) Based on 240 GB capacity.

(4) Based on MIL-STD-810G

HRS-X300 SATA Ordering Information

Part Number	Capacity (GB)
Without Conformal Coating	
HR3A2X0060AI001	60
HR3A2X0120AI001	120
HR3A2X0240AI001	240
HR3A2X0480AI001	480
With Conformal Coating	
HR3A2X0060AICC1	60
HR3A2X0120AICC1	120
HR3A2X0240AICC1	240
HR3A2X0480AICC1	480

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