

SMART HRS Product Comparison Chart

Rugged,
Reliable,
Secure
SSDs



	HRS-M4 & M4P	HRS-M1HC	HRS-M1 & M2	HRS-S3 & X3	HRS-X300
NAND Flash Type	MLC	MLC	MLC	SLC	SLC
Capacity Range	240GB - 2TB	1TB - 8TB	240GB - 2TB	60GB - 1TB	60GB - 480GB
Read/Write Performance	500MB/s Read, 260MB/s Write 525MB/s Read for M4P, 500MB/s Write for M4P	480MB/s Read, 480MB/s Write	525MB/s Read, 500MB/s Write	380MB/s Read, 360MB/s Write	500MB/s Read, 440MB/s Write
Applications					
Industrial	●	●	●	●	●
Defense	●	●	●	●	●
Data Recording	●	●	●	●	●
Mission Critical	●	●		●	
Surveillance	●	●		●	
Telemetry	●	●		●	
Reliability					
MTBF	>3M Hours >2M Hours for M4P	1.5M Hours	2M Hours	3.1M Hours	1M Hours
Data Reliability	1 in 10 ¹⁵ bits read for M4 1 in 10 ¹⁷ bits read for M4P	1 in 10 ¹⁵ bits read	1 in 10 ¹⁷ bits read	1 in 10 ¹⁸ bits read	1 in 10 ¹⁸ bits read
Data Retention	1 year at 55°C 10 years at 40°C for M4P	12 months @ 30°C	10 years @ 40°C	10 years @ 25°C	10 years @ 25°C
Endurance	1,200 total drive writes 2,100 total drive writes for M4P	2,000 total drive writes	2,100 total drive writes	10,000 total drive writes	10,000 total drive writes
Power Loss Protection	pFail	Fast Flush of Cached Data	Fast Flush of Cached Data for M1 pFail for M2	pFail	pFail
Warranty	1 Year	1 Year	1 Year	3 Years	3 Years
Environmental					
Operating Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Storage Temperature	-55°C to 95°C	-55°C to 95°C	-40°C to 85°C	-55°C to 95°C	-55°C to 95°C
Operating Shock	50 g half-sine, 11 ms, 3 shocks along each axis	1000 g half-sine, 0.5ms	50 g half-sine, 11ms, 3 shocks along each axis	40 g half-sine, 11ms, 3 shocks along each axis	50 g half-sine, 11ms, 3 shocks along each axis
Operating Vibration	16.4 g rms, 15-2,000 Hz for M4 16.4 g rms, 10-2,000 Hz for M4P	16.3 g rms, 10-2,000Hz	16.4 g rms, 15-2,000Hz	16.4 g rms, 15-2,000Hz	16.4 g rms, 15-2,000Hz
Relative Humidity	5%-95% non-condensing	5%-95% non-condensing	5%-95% non-condensing	5%-95% non-condensing	5%-95% non-condensing
Altitude	24,384m (80,000 ft)	30,480m (100,000 ft)	24,384m (80,000 ft)	24,384m (80,000 ft)	24,384m (80,000 ft)
Conformal Coating	Optional	Optional	Optional	Optional	Optional
Security (Protection & Data Elimination)					
ATA Password	■	■	■	■	■
AES 256b	■	■	■	■	■
Write Protect	■	■		■	
External HW Trigger	■	■		□ (S3 Only)	
Erase Key and Flash	■	■	■	■	■
Mil Erase Sequences					
NSA/CSS Manual 9-12	■	■		□	
DoD NISPOM 5220.22-M	■	■		□	
DoD NISPOM 5220.22-M-Sup 1		■		□	
NSA/CSS Manual 130-2	■	■		□	
Army AR 380-19	■	■		□	
Navy NAVSO P-5239-26	■	■		□	
Air Force AFSSI-5020		■		□	
RCC-TG IRIG 106-107				□	
Custom Sequence				□	

● Primary Application ■ Primary Security Feature □ SDET on HRS-S3 only

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