



# **INNODISK iSMART Linux Execution File User's Guide**

INNODISK PUBLIC DOCUMENT  
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## Revision History

Revision	Description	Date
3.1	Official release	June, 12, 2015
3.4	Add 3MG2-P series	June, 30, 2015
3.3	Bug fixed	July, 10, 2015
3.4	Add 3ME3 series	June, 20, 2015
3.9	Add write protect and ianalyzer	Dec, 30, 2015
3.9.7	Edit the command description	MAR,24, 2016

## 1. Execution File for Linux

iSMART reports following items to show the information of SSD. However, due to the support of controller, you may see only part of items for a product. Please refer to Section 3.1 for details.

Item	Description
Health	Health indicates the percentage of remaining disk life.
AverageEraseCount	The average erase count of all blocks.
MaximumEraseCount	The maximum erase count of all blocks.
TotalBadBlock	The total counts of bad block.
LaterBadBlock	After user used SSD for a period of time, there will have some bad block. Later bad block is unstable. SMART firmware will stop using bad block and do bad block replacement.
InitialFreeBlock	When system has a new bad block, free block is needed to do the replacement.
FreeBlock	The count of free block.
TotalEraseBlock	This value shows block erase counts of whole SSD.
ECCFailCount	The count of fail ECC.
CorrectedECCCount	The count of corrected ECC.
ReadLaterBadBlockCount	Total numbers of bad block occurring by reading data with ECC error.
WriteLaterBadBlockCount	Total numbers of bad block occurring by writing data with flash error.
EraseLaterBadBlockCount	Total numbers of bad block occurring by erasing block with error.
TotalGoodBlock	The total counts of good block.
InitialBadBlock	The count of initial bad block.
FlashEnduranceCount	The count of flash endurance.
Temperature	The temperature range is from -50℃~105℃ on a single disk. It supports commercial temperature (0℃~70℃) and industrial temperature (-40℃~85℃).  *For SATA III drives iSMART only support temperature on

	industrial temperature products.
iAnalyzer	Demonstration of user behavior.

For products information as below:

SARMT attribute check	./iSMART -d /dev/sda*
--------------------------	--------------------------

\*a,b,c: Device name

```
File Edit View Search Terminal Help
allen@allen-All-Series:~/Innodisk/iSMART_V3.9$ sudo ./iSMART -d /dev/sdb

*****
* Innodisk iSMART V3.9                      2015/12/31 *
*****
Model Name: SATA Slim 3ME3
FW Version: S15604
Serial Number: 20150904AAAA000000DF
Health = 99.933%
Capacity: 29.818199 GB
```

The sample result is as following picture.

```
*****
* Innodisk iSMART V3.1      150612 *
*****
Vendor: Innodisk
ModelName: EverGreen mSATA III
FW Version: P130911
Capacity: 29.82 GB
Power On Hours = 198
Power Cycle Count = 128

Health = 100.000%
Average Erase Count = 0
Maximum Erase Count = 4
Later Bad Block = 0
Read Later Bad Block Count = 0
Write Later Bad Block Count = 0
Erase Later Bad Block Count = 0
Temperature = 30
-----
  Read & Write
-----
Sequential Read  = 51%
Random Read     = 49%
Sequential Write = 15%
Random Write    = 85%
-----
  Sequential
-----
Size  Read  Write
8MB   0%    10%
4MB   0%     5%
1MB   92%   71%
128KB 5%     0%
64KB  0%     3%
32KB  3%    11%
-----
  Random
-----
Size  Read  Write
64KB  9%    56%
32KB  0%     1%
16KB  0%     0%
8KB   1%     1%
4KB   96%   42%
```

## 2. Disable/Enable Write Protect & iAnalyzer function

### 2.1 Status check

```
File Edit View Search Terminal Help
allen@allen-All-Series:~/Innodisk/iSMART_V3.9$ sudo ./iSMART -d /dev/sdb

*****
* Innodisk iSMART V3.9                      2015/12/31 *
*****
Model Name: SATA Slim 3ME3
FW Version: S15604
Serial Number: 20150904AAAA000000DF
Health = 99.933%
Capacity: 29.818199 GB
iAnalyzer: Disable
Write Protect: Disable

-----
ID      SMART Attributes                               Value
-----
[09]    Power On Hours                                [255]
```

### 2.2 Function Disable / Enable

Write protect	Disable	./iSMART -d /dev/sda -w 0
	Enable	./iSMART -d /dev/sda -w 1
iAnalyzer	Disable	./iSMART -d /dev/sda -a 0
	Enable	./iSMART -d /dev/sda -a 1

```
4KB      85%      68%
allen@allen-All-Series:~/Innodisk/iSMART_V3.9$ sudo ./iSMART -d /dev/sdb -w 1 -a 1

*****
* Innodisk iSMART V3.9                      2015/12/31 *
*****
Model Name: SATA Slim 3ME3
FW Version: S15604
Serial Number: 20150904AAAA000000DF
Health = 99.933%
Capacity: 29.818199 GB
iAnalyzer: Enable
Write Protect: Enable

-----
ID      SMART Attributes                               Value
-----
```

---

## **3. Support List**

### **3.1. OS List**

- Linux kernel 2.6, 32bit, 64bit
- Linux kernel 3.0, 32bit, 64bit