CPU Cooler *High performance thermal solutions*

Choosing the wrong CPU cooler for a system can lead to serious overheating, resulting in system shutdown and potential damage to CPUs.

For industrial applications, the following CPU coolers fit the needs of various operating environments, where different levels of cooling are required.

IEI Special Desktop Core™ CPU Cooler

Where Used	For spacial models: SPCIE-C2260, PCIE-Q870, PCIE-H810, WSB-H810, KINO-AQ870			
Model Name	CF-1150SA-R10	CF-1150SB-R11	CF-1150SC-R20	CF-1150SE-R11
Description	IEI customized cooler for LGA1150 Intel® CPU, RoHS	IEI customized cooler for LGA1150 Intel® CPU, RoHS	IEI customized cooler for LGA1150 Intel® CPU, 1U chassis compatible, RoHS	IEI customized cooler for LGA1150 Intel® CPU, RoHS
CPU Solution	Intel® Core™ i7/i5	Intel® Core™ i7/i5	Intel® Core™ i7/i5	Intel® Core™ i7/i5
Socket Solution	LGA1150/LGA1151	LGA1150/LGA1151	LGA1150/LGA1151	LGA1150/LGA1151
Dimensions (mm)	83 x 83 x 57	96 x 82 x 60	105 x 80 x 23.7	107 x 70 x 60
Material	Al	Al	Cu	Cu
Bearing Type	Ball And sleeve	Two-ball	Two-ball	Two-ball
Capability (Watt)	95 W	65 W	65 W	95 W
Fan Speed (RPM)	4200	3500	5500	4200
Noise Level (dBA)	40	41	55	36
Life Expectancy (hrs)	40,000	50,000	50,000	50,000
Weight	330 g	286 g	406 g	812 g

Intel® Standard Desktop Core™ CPU Cooler

	LGA115X (LGA1150/LGA1151/LGA1155/LGA1156)				
Model Name	CF-115XA-R10	CF-1156C-R20	CF-1156D-R20	CF-115XE-R10	CF-115XF-R10
Description	High performance LGA1155/ LGA1156 cooler kit, 1U chassis compatible	Low power LGA1155/LGA1156 cooler Kit, RoHS	Low power LGA1155/LGA1156 cooler Kit, RoHS	High performance LGA1155/ LGA1156 CPU cooler, RoHS	High performance LGA1155/ LGA1156 CPU cooler, RoHS
CPU Solution	Intel® Core™ i5/i3	Intel® Core™ i5/i3	Intel® Core™ i7/i5/i3	Intel® Xeon®/Core™ i7/i5/i3	Intel® Xeon®/Core™ i7/i5/i3
Socket Solution	LGA115X (LGA1150/LGA1151/LGA1155/LGA1156)				
Dimensions (mm)	89 x 92.6 x 27.4	90 x 90 x 33	90 x 90 x 33	91 x 91 x 84	90 x 90 x 69.3
Material	Cu	Al	Cu+Al	Al	Al
Bearing Type	Two-ball	Two Ball	Two Ball	Ball and Sleeve	Two Ball
Capability (Watt)	73 W	45 W	65 W	95 W	95 W
Fan Speed (RPM)	5500	3600	3600	4200	4200
Noise Level (dBA)	51	40	40	40	48
Life Expectancy (hrs)	50,000	70,000	70,000	40,000	50,000
Weight	422 g	198 g	240 g	301 g	432

CPU Cooler *High performance thermal solutions*

Choosing the wrong CPU cooler for a system can lead to serious overheating, resulting in system shutdown and potential damage to CPUs.

For industrial applications, the following CPU coolers fit the needs of various operating environments, where different levels of cooling are required.

Desktop CPU Cooler		
	LGA775 Cooler	
Model Name	**CF-775B-RS-R11**	**CF-520-RS-R11**
Description	High performance 1U LGA 775 CPU cooler, with 7010 fan, RoHS	High performance LGA 775 CPU cooler, RoHS
CPU Solution	Intel® Core™2 Duo	Intel® Core™2 Duo
Socket Solution	LGA 775	LGA 775
Dimensions (mm)	80.5 x 81 x 28.2	115 x 115 x 67
Material	Cu	Aluminum alloy
Bearing Type	Two-ball	Two-ball
Capability (Watt)	90 W	115 W
Fan Speed (RPM)	4250	4500
Noise Level (dBA)	40	47.5~51.5
Life Expectancy (hrs)	50,000	70,000
Weight	600 g	635 g

CPU Cooler	Mobile Core™ i7 CPU Cooler	
Blower	**PGA989**	
Model Name	**BF-02-RS**	**CF-989A-RS-R12**	**CF-989B-RS-R11**
Description	Bracket cooling fan, RoHS	High performance Socket-G (PGA989) smart fan CPU cooler, RoHS	High performance Socket-G (PGA989) CPU cooler, aluminum, RoHS
CPU Solution	Breaket cooling fan	Intel® Core™ i7/i5/i3	Intel® Core™ i7/i5/i3
Socket Solution		PGA989	PGA989
Dimensions (mm)	112 x 90 x 21	60 x 60 x 27.5	60 x 60 x 27.5
Material	Plastic	Cu	Al
Bearing Type	One-ball	Two-ball	Two-ball
Capability (Watt)		55 W	50 W
Fan Speed (RPM)	2800	4800	4800
Noise Level (dBA)	28	40	40
Life Expectancy (hrs)	45,000	50,000	50,000
Weight	107.5 g	255 g	26 g

Industrial SATADOM Series

■ The world's smallest high-speed SATADOM

The revolutionary form factor of SATADOM has been widely adopted by industrial and embedded system makers across the globe. With in-house designed SATA 6Gb/s controller, the SATADOM provides you not only the fastest read/write speed but also stable data transfer. Moreover, to address customer's challenging requirements, we have released a series of the smallest SATADOM which fits various kinds of compact systems. Here, we recommend five models by different heights. For the low-profile 1U system use, you can choose SL 3SE, SH 3SE, and SH 3ME.

■ SATA 6Gb/s Solutions

Powerful Performance
SATA 6Gb/s devices have 191% higher performance than SATA 3Gb/s devices.

Less Power Consumption
The advanced idle mode helps to save up to 35% of energy when system stays in idle, therefore the battery runtime increases and the system requests less power consumption than SATA 3Gb/s.

Greater Reliability
The in-house designed SATA 6Gb/s controller offers an excellent signal quality during data transfer, enhancing the system compatibility and stability.

Easier Use
Along with upgrading to SATA 6Gb/s, the one-touch activation mode of iSMART 3.2 can save hours of setup and maintenance time.

Model Name	IFM-3010V	IFM-3320M	IFM-3010L	IFM-3010H	IFM-3020HM
Picture					
Key Features	1. Vertical version 2. Anti-vibration mechanical design	1. Vertical version 2. Writing protection 3. Anti-vibration mechanical design	1. SATA 6Gb/s interface 2. iSMART disk health monitoring 3. Intelligent error recovery system 4. Excellent data transfer speed 5. Zero mechanical interference 6. Anti-vibration mechanical design	1. Horizontal version 2. Only exposes 12mm height on the motherboard after installation	1. Low profile horizontal design 2. High IOPS
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Flash Type	SLC	MLC	SLC	SLC	MLC
Capacity (GB)	1GB~32GB	8GB~128GB	1GB~32GB	1GB~32GB	8GB~128GB
Sequential R/W	300/130	355/135	300/130	300/130	200/75
Max. Power Consumation	0.65W (5V x 130mA)	1W (5V x 200mA)	0.65A (5V x 130mA)	0.65W (5V x 130mA)	1.8W (5V x 370mA)
Thermal Sensor	Wide temperature model only	Wide temperature model only	Wide temperature model only	Wide temperature model only	Wide temperature model only
ATA Security	Yes	Yes	Yes	Yes	Yes
S.M.A.R.T	Yes	Yes	Yes	Yes	Yes
Dimensions (mm)	20.9 x 39.5 x 7.9	25.3 x 41.5 x 6.8	32.5 x 29.5 x 8.0	18.1 x 30.5 x 12	18.0 x 30.3 x12.5
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storage Temperature: -55°C ~ +95°C, MTBF: >3 million hours				
P/N Standard (0°C~+70°C)	IFM-3010IS-1GB IFM-3010IS-2GB IFM-3010IS-4GB IFM-3010IS-8GB IFM-3010IS-16GB IFM-3010IS-32GB	IFM-3320IM-8GB-R21 IFM-3320IM-16GB-R21 IFM-3320IM-32GB-R21 IFM-3320IM-64GB-R21 IFM-3320IM-128GB-R21	IFM-3010IL-1GB IFM-3010IL-2GB IFM-3010IL-4GB IFM-3010IL-8GB IFM-3010IL-16GB IFM-3010IL-32GB	IFM-3010IPS-1GB IFM-3010IPS-2GB IFM-3010IPS-4GB IFM-3010IPS-8GB IFM-3010IPS-16GB IFM-3010IPS-32GB	IFM-3020IPSM-8GB-R21 IFM-3020IPSM-16GB-R21 IFM-3020IPSM-32GB-R21 IFM-3020IPSM-64GB-R21 IFM-3020IPSM-128GB-R21
P/N Wide Temperature (-40°C~+85°C)	IFM-3010WS-1GB IFM-3010WS-2GB IFM-3010WS-4GB IFM-3010WS-8GB IFM-3010WS-16GB IFM-3010WS-32GB	IFM-3320WM-8GB-R21 IFM-3320WM-16GB-R21 IFM-3320WM-32GB-R21 IFM-3320WM-64GB-R21 IFM-3320WM-128GB-R21	IFM-3010WL-1GB IFM-3010WL-2GB IFM-3010WL-4GB IFM-3010WL-8GB IFM-3010WL-16GB IFM-3010WL-32GB	IFM-3010WPS-1GB IFM-3010WPS-2GB IFM-3010WPS-4GB IFM-3010WPS-8GB IFM-3010WPS-16GB IFM-3010WPS-32GB	IFM-3020WPSM-8GB-R21 IFM-3020WPSM-16GB-R21 IFM-3020WPSM-32GB-R21 IFM-3020WPSM-64GB-R21 IFM-3020WPSM-128GB-R21

Industrial SSD Series

■ Breakthrough Technology of IFD-2530ISMD

With the release of the brand-new designed firmware algorithm, and IFD-2530ISMD offer outstanding read and write performance and extended lifespan, and are compliant with the JEDEC 219 specifications. In addition, with the iData Guard Technology, IFD-2530ISMD support data integrity in the event of abnormal power failure. The wide operating temperature ranges from -40 °C to 85 °C.

Features of IFD-2540A2M & IFD-2530ISMD

IFD-2540A2M and IFD-2530ISMD provide a wide range demand of capacity. IFD-2530ISMD even supports large capacity up to 1TB.

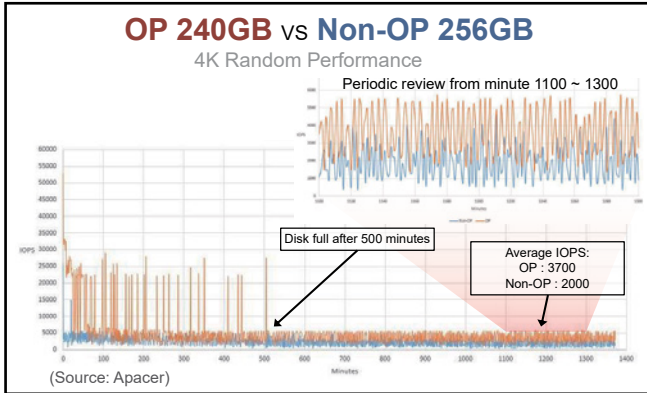|	IFD-2540A2M	IFD-2530ISMD
DRAM-less Design	●	
Price	●	
Random Transfer Performance	● R: 31,000 IOPS/W: 40,000 IOPS (128GB)	● R: 70,000 IOPS/W: 64,000 IOPS (128GB)
Easy to Design in Small Form Factors	●	
Low Power Consumption	●	●
TRIM	●	●

Model Name	2.5" SATA 6Gb/s IFD-2530ISMD	2.5" SATA 6Gb/s IFD-2540A2M
Picture		
Key Features	1. EverGreen L² architecture 2. 7mm height mechanical design 3. Excellent random performance	1. 7mm height mechanical design 2. Low power consumption 3. Budget-friendly MLC-based solution
Interface	SATA 6Gb/s	SATA 6Gb/s
Flash Type	MLC	MLC
Capacity (GB)	8GB~1TB	32GB~1TB
Sequential R/W	520/450	560/510
Max. Power Consumption	5W (5V x 1A)	0.5W (5V x 100 mA)
Thermal Sensor	Wide temperature model only	Wide temperature model only
ATA Security	Yes	Yes
S.M.A.R.T	Yes	Yes
Dimensions (mm)	70.0 x 100.0 x 6.8	69.85 x 100 x 6.9
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storage Temperature: -55°C ~ +95°C, MTBF: >3 million hours	
P/N	Standard (0°C~+70°C)	IFD-2530ISMD-8GB-R20 IFD-2530ISMD-16GB-R20 IFD-2530ISMD-32GB-R20 IFD-2530ISMD-64GB-R20 IFD-2530ISMD-128GB-R20 IFD-2530ISMD-256GB-R20 IFD-2530ISMD-512GB-R20 IFD-2530ISMD-1TB-R20	IFD-2540A2M-32GB-R20 IFD-2540A2M-64GB-R20 IFD-2540A2M-128GB-R20 IFD-2540A2M-256GB-R20 IFD-2540A2M-512GB-R20 IFD-2540A2M-1TB-R20
	Wide Temperature (-40°C~+85°C)	IFD-2530WTMD-8GB-R20 IFD-2530WTMD-16GB-R20 IFD-2530WTMD-32GB-R20 IFD-2530WTMD-64GB-R20 IFD-2530WTMD-128GB-R20 IFD-2530WTMD-256GB-R20 IFD-2530WTMD-512GB-R20 IFD-2530WTMD-1TB-R20	IFD-2540AW2M-32GB-R20 IFD-2540AW2M-64GB-R20 IFD-2540AW2M-128GB-R20 IFD-2540AW2M-256GB-R20 IFD-2540AW2M-512GB-R20 IFD-2540AW2M-1TB-R20

Industrial SSD Series

■ Over-provisioning for SSDs
Maintain the high performance of SSDs with over-provisioning

All SSDs feature a reserved space for over-provisioning (OP). This allows the SSD to continue writing data without affecting performance when the SSD is almost out of storage space. However, if this reserved space is used up, the SSD needs to reorganize its internal data before any new data can be written. This data reorganization can have drastic impacts to both SSD performance and lifetime. SSDs with insufficient OP reserved space is like a restaurant where the staff do not have enough time to clean up the tables left by customers, resulting in guests waiting at the door. With additional reserved space for OP, it is like opening separate tables for new customers.

OP 240GB VS **Non-OP 256GB**
4K Random Performance
Periodic review from minute 1100 ~ 1300
Disk full after 500 minutes
Average IOPS:
OP : 3700
Non-OP : 2000
(Source: Apacer)

Due to cost considerations of SSD manufacturers and general usage cases, SSDs intended for general consumers only provide a minimal reserved space for OP. For a larger OP reserved space, expensive enterprise-level SSDs are required. Additional space for over-provisioning can be reserved at the OS level (or by other software). Research by mainstream SSD manufacturers has shown that on a 512 GB consumer-level SSD, an additional 5% reserved space for OP can more than double the lifespan (write endurance) of an SSD, and improve performance by nearly 100%.

SSDs with over-provisioning technology, while sacrificing a portion of the physical capacity, have more free blocks for wear-leveling and garbage collection to further improve lifespan and overall performance.

The 3D 2.5" SATA SSD is SATA 6Gb/s solid state disk, which delivers excellent performance, especially in random data transfer rate, and which offers reliability making it the ideal solution for a variety of applications, including embedded system, industrial computing, and enterprise field. The 3D 2.5" SSD not only performs unmatched performance but also designed with industrial storage technologies to ensure the data integrity and highest levels of reliability.

■ Features of IFD-2540A3T

IFD-2540A3T provide a wide range demand of capacity. I

	IFD-2540A3T
DRAM-less Design	●
Price	●
Random IOPS	R: 80,000 IOPS/W: 71,000 IOPS (128GB)
Easy to Design in SFF	●
Low Power Consumption	●
TRIM	●

Model Name	2.5" SATA 6Gb/s IFD-2540A3T
Picture	
Key Features	1. LDPC ECC engine Internal Flash DIE RAID engine 2. End to End Data Protection Original Toshiba Industrial grade 3D TLC 3. End to End Power Protection Optional iCell
Interface	SATA 6Gb/s
Flash Type	3D TLC
Capacity (GB)	30GB~960GB
Sequential R/W	560/515
Max. Power Consumption	2.6W (5V x 525mA)
Thermal Sensor	Yes
ATA Security	Yes
S.M.A.R.T	Yes
Dimensions (mm)	69.8 x 100.0 x 6.8
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storage Temperature: -55°C ~ +95°C, MTBF: >3 million hours
P/N	**Standard (0°C~+70°C):** IFD-2540A3T-30GB-R10 IFD-2540A3T-60GB-R10 IFD-2540A3T-120GB-R10 IFD-2540A3T-240GB-R10 IFD-2540A3T-480GB-R10 IFD-2540A3T-960GB-R10	**Wide Temperature (-40°C~+85°C):** IFD-2540IW3T-1TB-R10 IFD-2540IW3T-512GB-R10 IFD-2540IW3T-256GB-R10 IFD-2540WI3T-128GB-R10 IFD-2540WI3T-64GB-R10 IFD-2540WI3T-32GB-R10

Industrial CFast & CF Card Series

■ Similar size, different read and write speeds

With a similar size, CFast is mainly different from CF card in its interface, connector, and most importantly, faster read and write speeds. CFast, with SATA 6Gb/s interface and 7-pin plus 17-pin connector, offers data transfer rates of sequential reads up to 470 MB/sec and of sequential writes up to 250 MB/sec. CF card, with PATA interface and 50-pin CF connector, offers data transfer rates of sequential reads up to 100 MB/sec and of sequential writes up to 95 MB/sec.
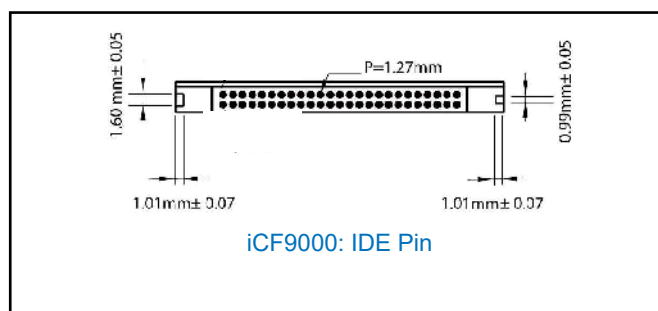
■ ATA security for CF card

The optional ATA Security Mode feature set is a password system that restricts access to user data stored on a device. The purpose is to prevent unauthorized access or a virus.

CFast 3SE: Pin Directions

Pin S6: Tx+   Pin S3: Rx-

Pin S5: Tx-   Pin S2: Rx+

iCF9000: IDE Pin

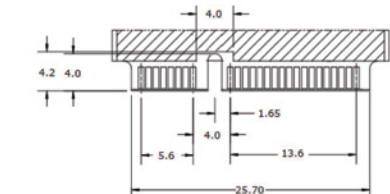| Model Name	ICF-9000	ICF-2000	ICF-1000	
Picture				
Capacity	4GB~32GB	512MB~8GB	128MB~8GB	128MB~16GB
Sequential R/W (Max.)	110/100 MB/sec	40/30 MB/sec	40/28 MB/sec	30/15 MB/sec
Flash Type	SLC	SLC	SLC	SLC
IDE Transfer Mode	PIO mode 0-6 MwDMA mode 0-4 UltraDMA mode 0-7	PIO mode 0-4 MwDMA mode 0-4 UltraDMA mode 0-4	PIO mode 0-4 MwDMA mode 0-4 UltraDMA mode 0-4	PIO mode 0-6 MwDMA mode 0-4 UltraDMA mode 0-4
Operating Temp.	0°C~+70°C (Standard)/-40°C~+85°C (Industrial)			
Storage Temp.	-55°C~+95°C			-40°C~+100°C
Vibration/Shock (7/2000Hz)/(0.5ms)	1500G/0.5ms			1500G/0.5ms
DC Power Input	ICF: +3.3V~+5V single power supply operation			Supply voltage: 3.3V & 5V
Power Consumption (Max.)	0.75W (5V x 125mA@210mA)			95 mA
Dimensions (mm)	42.8 x 36.4 x 3.3			42.8 x 36.4 x 3.3
ATA Security	Yes	Yes	Yes	Yes
S.M.A.R.T	Yes	Yes	Yes	No
P/N — STD (0°C~+70°C)	ICF-9000CD-4GB ICF-9000CD-8GB ICF-9000CD-16GB ICF-9000CD-32GB	ICF-2000IPS-512MB ICF-2000IPD-1GB ICF-2000IPD-2GB ICF-2000IPD-4GB ICF-2000IPD-8GB	ICF-1000IPD-1GB-R20 ICF-1000IPD-2GB-R20 ICF-1000IPD-4GB-R20 ICF-1000IPD-8GB-R20	ICF-1000IA-128MB-R20 ICF-1000IA-256MB-R20 ICF-1000IA-512MB-R20 ICF-1000IA-1GB-R20 ICF-1000IA-2GB-R20 ICF-1000IA-4GB-R20 ICF-1000IA-8GB-R20
P/N — WT (-40°C~+85°C)	ICF-9000WD-4GB ICF-9000WD-8GB ICF-9000WD-16GB ICF-9000WD-32GB	ICF-2000WPS-512MB ICF-2000WPD-1GB ICF-2000WPD-2GB ICF-2000WPD-4GB ICF-2000WPD-8GB	ICF-1000WPD-1GB-R20 ICF-1000WPD-2GB-R20 ICF-1000WPD-4GB-R20 ICF-1000WPD-8GB-R20	ICF-1000WA-128MB-R20 ICF-1000WA-256MB-R20 ICF-1000WA-512MB-R20 ICF-1000WA-1GB-R20 ICF-1000WA-2GB-R20 ICF-1000WA-4GB-R20 ICF-1000WA-8GB-R20

Industrial Mini PCIe DOM & mSATA Series

■ Co-layout design of Mini PCIe DOM and mSATA

For manufacturers or system integrators, the exciting benefit is they can have a circuit board with co-layout design of Mini PCIe DOM and mSATA. This feature allows users to enjoy wider applications by installing optional Mini PCIe DOM or mSATA in the same placement site.

■ Mini PCIe DOM: For conventional main board, better performance than CF card

We have realized IPC customers need a steady supply for their design-in cases by using Mini PCIe DOM or CF card as boot drive or storage. However, Mini PCIe DOM obviously has better performance in read/write over 4 times than CF card. Boasting its easy use in plug-and-play and driverless (Windows XP and above) capabilities, the Mini PCIe DOM is no doubt the best choice for the conventional motherboard. In the following table, we recommend one cost-effective MLC model and one reliable SLC model.

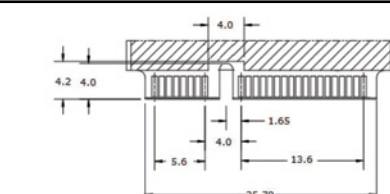mini PCIe DOM 1ME: Pin Directions
Pin33: PETp0
Pin31: PETn0
Pin23: PERn0
Pin25: PERp0

■ mSATA: For space-limited main board, up to read/write speed of 470/220 MB/sec

Nowadays, more and more compact gadgets are designed to satisfy eager users. Smaller than a business card, the mSATA has become the must-have storage to deliver instant data transfer.

In the following table, we recommend five models categorized by the flash type and size.

mSATA 3SE: Pin Directions
Pin33: Rx+
Pin31: Rx-
Pin23: Tx+
Pin25: Tx-

Model Name	IPE-5300IM/WM	IPE-5330A3T/AW3T	IPE-5330A2M/AW2M
Picture			*New*
Key Features	1. Excellent data transfer speed 2. High quality SLC- based solution	1. SATA III solution for industrial field 2. High IOPS 3. DEVSLP supported	1. Excellent data transfer speed and IOPS 2. Budget- friendly MLC-based solution
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Flash Type	SLC	TLC	MLC
Capacity (GB)	2GB~32GB	30GB~960GB	32GB~512GB
Sequential R/W	470/250	510/480	560/510
Max.Power Consumption	1.2W (3.3V x 360mA)	1.7W (3.3V x 540 mA)	3W (3.3V x 935mA)
Thermal Sensor	Wide temperature model only	Yes	Yes
ATA Security	Yes	Yes	Yes
S.M.A.R.T	Yes	Yes	Yes
Dimensions (mm)	29.8 x 50.8 x 4.4	29.85 x 50.8 x 3.7	29.8 x 50.8 x 4.4
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storage Temperature: -55°C ~ +95°C, MTBF: >3 million hours		
P/N — Standard (0°C~+70°C)	IPE-5300IM-1GB IPE-5300IM-2GB IPE-5300IM-4GB IPE-5300IM-8GB IPE-5300IM-16GB IPE-5300IM-32GB	IPE-5330A3T-30GB-R20 IPE-5330A3T-60GB-R20 IPE-5330A3T-120GB-R20 IPE-5330A3T-240GB-R20 IPE-5330A3T-480GB-R20 IPE-5330A3T-960GB-R20	IPE-5330A2M-32GB-R10 IPE-5330A2M-64GB-R10 IPE-5330A2M-128GB-R10 IPE-5330A2M-256GB-R10 IPE-5330A2M-512GB-R10
P/N — Wide Temperature (-40°C~+85°C)	IPE-5300WM-1GB IPE-5300WM-2GB IPE-5300WM-4GB IPE-5300WM-8GB IPE-5300WM-16GB IPE-5300WM-32GB	IPE-5330AW3T-30GB-R20 IPE-5330AW3T-60GB-R20 IPE-5330AW3T-120GB-R20 IPE-5330AW3T-240GB-R20 IPE-5330AW3T-480GB-R20 IPE-5330AW3T-960GB-R20	IPE-5330AW2M-32GB-R10 IPE-5330AW2M-64GB-R10 IPE-5330AW2M-128GB-R10 IPE-5330AW2M-256GB-R10 IPE-5330AW2M-512GB-R10

M.2 SATA III

M.2, formerly known as the Next Generation Form Factor (NGFF), M.2's more flexible physical specification allows different module widths and lengths, and, paired with the availability of more advanced interfacing features, makes the M.2 more suitable than mSATA for solid-state storage applications in general and particularly for the use in small system.

■ Features

- Adopted SATA 6Gb/s interface, complaint with M.2 (NGFF) type 2242 and 2280
- Excellent data transfer speed in small form factor
- iCell technology for data protection
- Supports iSMART disk health monitoring

■ Benefits

- The small form factor of M.2 (S42) saves about 40% of PCB dimension, comparing to the Mini PCIe form factor
- Innodisk's exclusive iData Guard ensures reliable data transfer in the event of an abnormal power failure
- Fully compliant with industrial standard
- Suitable for ultra-thin or compact system

■ M.2 form factor used on SSD

- Key A version is intended to support Wi-Fi+BT+NFC and/or WiGig Combo solution
- Key B is intended to support WWAN+GNSS, SSD and other add-in solutions
- Key E is intended to support Wi-Fi+BT+NFC or GNSS solution
- Key M is intended for SSD devices only

Model Name	IM2SE-2242IM	IM2SE-2280I2M	IM2SE-2242I3T	IM2SE-2280I3T	IM2SE-2242I3TD	IM2SE-2280I3TD
Picture						
Type	2242-D2-B-M	2280-D2-B-M	2242-D2-B-M	2280-D2-B-M	2242-D2-B-M	2280-D2-B-M
Key Features	1. Design with LDPC ECC engine 2. Budget-Friendly MLC-based solution		1. Truly industrial optimized firmware with 3D NAND flash 2. Advanced LDPC ECC engine 3. Internal RAID Technology 4. DRAM-less , high level data integrity 5. Excellent data transfer speed		1. Extreme SEQ and random performance 2. Advanced LDPC ECC engine 3. Flash DIE RAID function 4. AES 256 5. End to End data path protection	
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Flash Type	MLC	MLC	3D TLC	3D TLC	3D TLC	3D TLC
Capacity (GB)	8GB~256GB	32GB~1TB	32GB~512GB	32GB~1TB	128GB~512GB	128GB~1TB
Sequential R/W	530/210	530/450	530/210	520/210	550/340	540/500
Max. Power Consumption	1.4W (3.3V x 422 mA)	4.6W (3.3V x 1.4A)	1.6W (3.3V x 475 mA)	2.0W (3.3V x 614 mA)	2.4W (3.3V x 740 mA)	2.6W (3.3V x 800 mA)
Thermal Sensor	Yes	Yes	Yes	Yes	Yes	Yes
ATA Security	Yes	Yes	Yes	Yes	Yes	Yes
S.M.A.R.T	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions (mm)	22.0 x 42.0 x 3.2	22.0 x 80.0 x 3.5	22.0 x 42.0 x 3.2	22.0 x 80.0 x 3.2	69.8 x 100.0 x 6.8	22.0 X 80.0 X 3.0
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storeage Temperature: -55°C ~ +95°C, MTBF: >3 million hours					

P/N	Standard (0°C~+70°C)	IM2SE-2242IM-256GB-R10 IM2SE-2242IM-128GB-R10 IM2SE-2242IM-64GB-R10 IM2SE-2242IM-32GB-R10 IM2SE-2242IM-16GB-R10 IM2SE-2242IM-8GB-R10	IM2SE-2280I2MD-1TB-R10 IM2SE-2280I2MD-512GB-R10 IM2SE-2280I2MD-256GB-R10 IM2SE-2280I2MD-128GB-R10 IM2SE-2280I2MD-64GB-R10 IM2SE-2280I2MD-32GB-R10	IM2SE-2242I3T-512GB-R10 IM2SE-2242I3T-256GB-R10 IM2SE-2242I3T-128GB-R10 IM2SE-2242I3T-64GB-R10 IM2SE-2242I3T-32GB-R10	IM2SE-2280I3T-1TB-R10 IM2SE-2280I3T-512GB-R10 IM2SE-2280I3T-256GB-R10 IM2SE-2280I3T-128GB-R10 IM2SE-2280I3T-64GB-R10 IM2SE-2280I3T-32GB-R10	IM2SE-2242I3TD-512GB-R10 IM2SE-2242I3TD-256GB-R10 IM2SE-2242I3TD-128GB-R10	IM2SE-2280I3TD-1TB-R10 IM2SE-2280I3TD-512GB-R10 IM2SE-2280I3TD-256GB-R10 IM2SE-2280I3TD-128GB-R10
	Wide Temperature (-40°C~+85°C)	IM2SE-2242WM-256GB-R10 IM2SE-2242WM-128GB-R10 IM2SE-2242WM-64GB-R10 IM2SE-2242WM-32GB-R10 IM2SE-2242WM-16GB-R10 IM2SE-2242WM-8GB-R10	IM2SE-2280IW2MD-1TB-R10 IM2SE-2280IW2MD-512GB-R10 IM2SE-2280IW2MD-256GB-R10 IM2SE-2280IW2MD-128GB-R10 IM2SE-2280IW2MD-64GB-R10 IM2SE-2280IW2MD-32GB-R10	IM2SE-2242IW3T-512GB-R10 IM2SE-2242IW3T-256GB-R10 IM2SE-2242IW3T-128GB-R10 IM2SE-2242IW3T-64GB-R10 IM2SE-2242IW3T-32GB-R10	IM2SE-2280IW3T-512GB-R10 IM2SE-2280IW3T-256GB-R10 IM2SE-2280IW3T-128GB-R10 IM2SE-2280IW3T-64GB-R10 IM2SE-2280IW3T-32GB-R10	IM2SE-2242IW3TD-512GB-R10 IM2SE-2242IW3TD-256GB-R10 IM2SE-2242IW3TD-128GB-R10	IM2SE-2280IW3TD-1TB-R10 IM2SE-2280IW3TD-512GB-R10 IM2SE-2280IW3TD-256GB-R10 IM2SE-2280IW3TD-128GB-R10

M.2 PCIeIII

M.2 SSD is an NVM Express DRAM-less SSD designed as the standard M.2 form factor with PCIe interface. M.2 SSD supports PCIe Gen III x2, and it is compliant with NVM 1.3 providing excellent performance. Moreover, it adopts industrial grade NAND Flash which provides high endurance and reliability. With sophisticated error detection and correction (ECC) functions, the module can ensure full End-to-end Data Path Protection that secures the data transmission between the host system and NAND flash.

■ Features

- PCIe Gen. III x2, NVMe 1.3
- Anti-vibration mechanical design
- LDPC ECC engine supported.
- End-to-end Data Path Protection
- iCell supported

■ Benefits

- Excellent data transfer speed
- Zero mechanical interference
- Enhanced power failure protection
- Native PCIe device without driver in needed.

| Model Name	IPE-G32-2242I2M	IPE-G32-2280I2M	IPE-G32-2242I3T	IPE-G32-2280I3T
Picture				
Key Features	1. Type 2242-D2-B-M 2. Heat-less controller chip 3. Support NVM3 v1.3 4. End-to-End data path protection 5. iDATA guard power protection	1.Type 2280-D2-B-M 2. Heat-less controller chip 3. Support NVM3 v1.3 4. End-to-End data path protection 5. iDATA guard power protection	1. Dram-Less solution 2. Heat-less controller chip 3. Support NVM3 v1.3 4. End-to-End data path protection	1. Dram-Less solution 2. Heat-less controller chip 3. Support NVM3 v1.3 4. End-to-End data path protection
Interface	PCIe Gen. III x2	PCIe Gen. III x2	PCIe Gen. III x2	PCIe Gen. III x2
Flash Type	MLC	MLC	3D TLC	3D TLC
Capacity (GB)	32GB~256GB	32GB~512GB	64GB~512GB	64GB~1TB
Sequential R/W	1300/360	1300/490	1300/680	1300/680
Max. Power Consumption	2.9W (3.3V x 880mA)	3.72W (3.3 x 1130mA)	2.31W(3.3V x 700mA)	3W(3.3V x 910mA)
Thermal Sensor	Yes	Yes	Standard: Yes, Wide Temperature: Yes	Standard: Yes, Wide Temperature: Yes
ATA Security	Yes	No	No	No
S.M.A.R.T	Yes	Yes	Yes	Yes
Dimensions (mm)	22.0 x 42.0 x 3.5	22.0 x 80.0 x 3.5	22.0 x 42.0 x 3.5	22.0 x 80.0 x 3.5
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storeage Temperature: -55°C ~ +95°C, MTBF: >3 million hours			
P/N	Standard (0°C~+70°C)	IPE-G32-2242I2M-256GB-R10 IPE-G32-2242I2M-128GB-R10 IPE-G32-2242I2M-64GB-R10 IPE-G32-2242I2M-32GB-R10	IPE-G32-2280I2M-512GB-R10 IPE-G32-2280I2M-256GB-R10 IPE-G32-2280I2M-128GB-R10 IPE-G32-2280I2M-64GB-R10 IPE-G32-2280I2M-32GB-R10	IPE-G32-2242I3T-512GB-R10 IPE-G32-2242I3T-256GB-R10 IPE-G32-2242I3T-128GB-R10 IPE-G32-2242I3T-64GB-R10	IPE-G32-2280I3T-1TB-R10 IPE-G32-2280I3T-512GB-R10 IPE-G32-2280I3T-256GB-R10 IPE-G32-2280I3T-128GB-R10 IPE-G32-2280I3T-64GB-R10
	Wide Temperature (-40°C~+85°C)	IPE-G32-2242IW2M-256GB-R10 IPE-G32-2242IW2M-128GB-R10 IPE-G32-2242IW2M-64GB-R10 IPE-G32-2242IW2M-32GB-R10	IPE-G32-2280IW2M-512GB-R10 IPE-G32-2280IW2M-256GB-R10 IPE-G32-2280IW2M-128GB-R10 IPE-G32-2280IW2M-64GB-R10 IPE-G32-2280IW2M-32GB-R10	IPE-G32-2242IW3T-512GB-R10 IPE-G32-2242IW3T-256GB-R10 IPE-G32-2242IW3T-128GB-R10 IPE-G32-2242IW3T-64GB-R10	IPE-G32-2280IW3T-1TB-R10 IPE-G32-2280IW3T-512GB-R10 IPE-G32-2280IW3T-256GB-R10 IPE-G32-2280IW3T-128GB-R10 IPE-G32-2280IW3T-64GB-R10

Intel® 2.5" SSD Solution

Key Features	1. 7mm height mechanical design 2. Low power consumption	Max. Power Consumption	165mw (5V*33mA)
Interface	SATA 6Gb/s	Thermal Sensor	0° C~70°C
Flash Type	MLC	ATA Security	Yes
Capacity (GB)	60GB~480GB	S.M.A.R.T	Yes
Sequential R/W	540/490	Dimensions (mm)	70 x 100 x 7
Environment	Vibration: 2.17 G@5-700 Hz, Shock: 1500G@0.5ms, Storeage Temperature: 0° C~70° C, MTBF: ≥1.2 million hours		

Ensuring the Best System Performance

IEI provide complete product line of industrial

Features
- Refresh ➜ TREFI=7.8ms from -40°C~+85°C
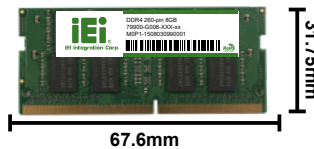- 30μ" Gold Finger
- Stern Test of Parameter
- High Reliability
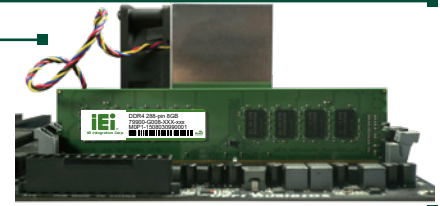
DDR4 DIMM

Features
- Low Power
- Thermal Sensor Design Ready
- Major on Third
- 100% System Level Test

DDR4 DIMM

Module Speed	DIMM	SO-DIMM	CAS Latency
2133 MHz	288-pin	260-pin	CL13

■ SO-DIMM

67.6mm — 31.75mm

■ Long-DIMM

133.35mm — 31.75mm
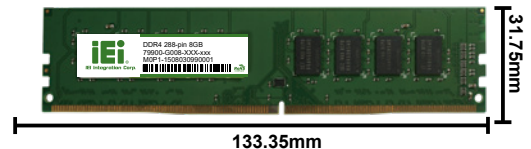
Ordering Information

DDR4 SO-DIMM	Description
	DDR4 2400 4GB SO-DIMM CL17 512M*8
	DDR4 2400 8GB SO-DIMM CL17 512M*8
	DDR4 2400 8GB SO-DIMM CL17 1G*8
	DDR4 2400 16GB SO-DIMM CL17 1G*8
	DDR4 2666 4GB SO-DIMM CL17 512M*8
	DDR4 2666 8GB SO-DIMM CL17 512M*8
	DDR4 2666 8GB SO-DIMM CL17 1G*8
	DDR4 2666 16GB SO-DIMM CL17 1G*8

DDR4 Long-DIMM	Description
	DDR4 2400 4GB Long-DIMM CL17 512M*8
	DDR4 2400 8GB Long-DIMM CL17 512M*8
	DDR4 2400 8GB Long-DIMM CL17 1G*8
	DDR4 2400 16GB Long-DIMM CL17 1G*8
	DDR4 2666 4GB Long-DIMM CL17 512M*8
	DDR4 2666 8GB Long-DIMM CL17 512M*8
	DDR4 2666 8GB Long-DIMM CL17 512M*8
	DDR4 2666 16GB Long-DIMM CL17 1G*8

DDR3 W/T & Commercial ECC Thermal Sensor Solution

Module Speed	1600 MHz
DIMM	240-pin
SO-DIMM	204-pin
CAS Latency	CL11

DDR3 ECC SO-DIMM

67.6mm — 31.75mm

DDR3 ECC Long-DIMM

133.35mm — 31.75mm

Ordering Informtion

DDR3 SO-DIMM W/T	Description
	DDR3 1600 1GB ECC SO-DIMM CL11 128M*8
	DDR3 1600 2GB ECC SO-DIMM CL11 256M*8
	DDR3 1600 4GB ECC SO-DIMM CL11 256M*8
	DDR3 1600 8GB ECC SO-DIMM CL11 256M*8

DDR3 DIMM W/T	Description
	DDR3 1600 2GB DIMM CL11 256M*8
	DDR3 1600 4GB DIMM CL11 256M*8
	DDR3 1600 8GB DIMM CL11 256M*8
	DDR3 1600 16GB DIMM CL11 256M*8

DDR3 W/T Solution

Module Speed	1600 MHz
DIMM	240-pin
SO-DIMM	204-pin
CAS Latency	CL11

DDR3 SO-DIMM

67.6mm — 31.75mm

DDR3 Long-DIMM

133.35mm — 18.8mm
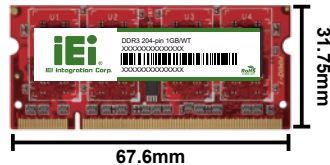
Ordering Information

DDR3 SO-DIMM W/T	Description
	DDR3 1600 1GB SO-DIMM, ProMOS, 128M*8
	DDR3 1600 2GB SO-DIMM, ProMOS, 128M*8
	DDR3 1600 2GB SO-DIMM, Micron, 256M*8
	DDR3 1600 4GB SO-DIMM, Micron, 256M*8
	DDR3 1600 4GB SO-DIMM, ProMOS, 512M*8
	DDR3 1600 8GB SO-DIMM, ProMOS, 512M*8

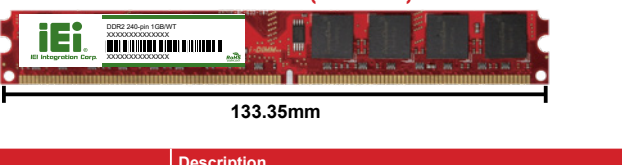| DDR3 DIMM W/T	Description
	DDR3 1600 2GB DIMM, ProMOS, 128M*8
	DDR3 1600 2GB DIMM, Micron, 256M*8
	DDR3 1600 4GB DIMM, Micron, 256M*8
	DDR3 1600 4GB DIMM, ProMOS, 512M*8
	DDR3 1600 8GB DIMM, ProMOS, 512M*8

DDR2 W/T Solution

Module Speed	800 MHz
DIMM	240-pin
SO-DIMM	200-pin
CAS Latency	CL6

DDR2 SO-DIMM

67.6mm — 31.75mm
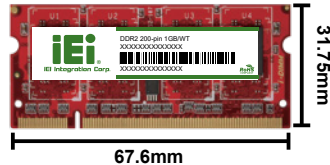
DDR2 DIMM (Low Profile)

133.35mm

Ordering Information

DDR2 SO-DIMM W/T	Description
	DDR2 667 1GB SO-DIMM, ProMOS, 128M*8
	DDR2 800 1GB SO-DIMM, ProMOS, 128M*8
	DDR2 800 2GB SO-DIMM, ProMOS, 128M*8

DDR2 DIMM W/T	Description
	DDR2 800 1GB DIMM, ProMOS, 128M*8
	DDR2 800 2GB DIMM, ProMOS, 128M*8

DDR SO-DIMM W/T	Description
	DDR400 1GB SO-DIMM, ProMOS, 64M*8

Lifespan Evaluation of Flash Products
From Endurance to iSMART

## ■ Endurance of different flash types - SLC and MLC

SLC is more reliable and has longer endurance than MLC.

MLC is cost-saving alternative to SLC to replace the traditional HDD.

■ iSMART, the proprietary disk health monitoring tool, provides easy access, in-depth information for embedded applications

iSMART can monitor all our flash products in a system. It provides clear and easy to understand warnings, numbers, charts and graphics to enable system integrators and users to check storage device health, performance, temperature, free space, and status at a glance. Also, it can alert users with the remaining service lifetime of Innodisk drives, so that they can replace a device in plenty of time to avoid any potential issues.

Besides providing critical disk information, iSMART also offers convenience through e-mail alerts and one-touch feature. Additionally, iSMART provides dynamic power management, advancing green design goals for lower power consumption, such as with a 35% of power saving in idle mode.
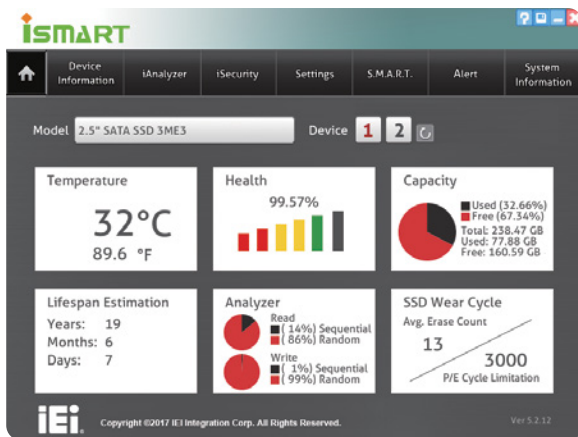
Dashbord

The Dashboard's home tab aims to provide a summary or quick snapshot of each installed disks in the system. This page offers accurate data information regarding Temperature, Health, Capacity, Lifespan, iAnalyzer, and Notifications.
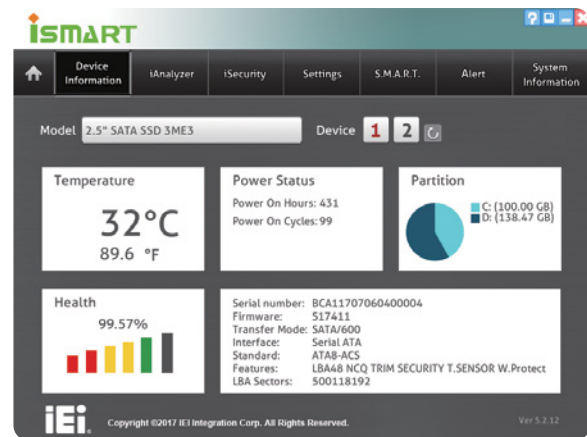
Device Information

The Device Information page provides additional functions, such as Power Status, Partitions, and detailed information of the device such as Serial Number, Firmware Vision, Interface, and Features. To learn more about SMART information, go to SMART values and refer to the SMART tab.
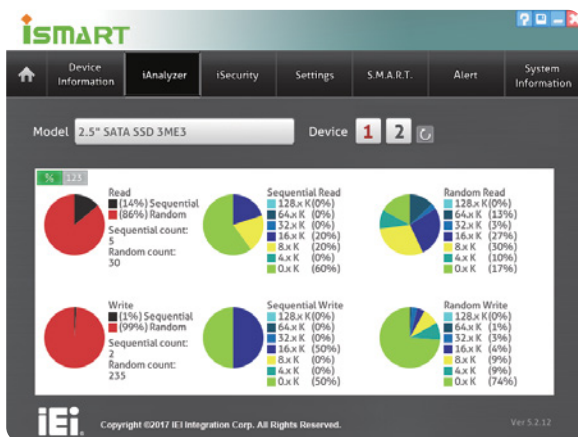
iAnalyer

When activated, the iAnalyzer tab displays the read/write behaviors of the SSD in real time. This allows the user to understand their application usage of the SSD. Sequential and Random I/Os are easily broken down into percentages making them easy to read.
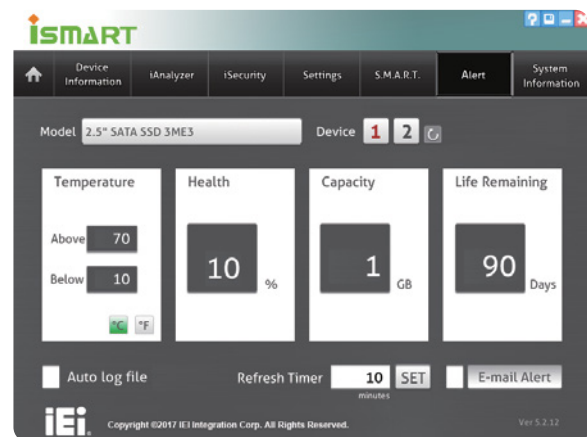
Alert

The Alert tab helps the user set trigger points with Temperature, Health percentage, Remaining Capacity or Life Remaining. If these trigger points exceed their boundaries, the iSMART utility can send a warning and email to the user notifying them that something may fail.

Drive Cage   *Standard 3.5" Device in 5.25" Drive Bay Solutions*

Following the traditional industrial system needs for stability, durability and toughness for storage drive operating condition, IEI provides various kinds of standard 3.5" device in 5.25" removable drive bay and modules for different demands.

SATA / IDE / SSD Solution		
Model Name	XWC-410030507220-RS	XWC-410030507230-RS	RHD-302SATA-R20
Dimensions (L x W x H) (mm)	150 x 146 x 42	150 x 146 x 42	202 x 146 x 86
Material	Aluminum	Aluminum	Aluminum alloy
Interface	SATA / IDE / SSD	SATA / IDE / SSD	SATA III / SAS 2.0
Data Transfer Rate			SAS 2.0 / SATA III 6Gbps
Drive Bay Space	One 5.25" drive bay	One 5.25" drive bay	2 x 5.25" Device Bay for 3 x 2.5" or 3.5" Hard Drive
HDD Type	Internal 3.5" device bay	Internal 3.5" device bay	2.5" or 3.5" Hard Drive
Cooling Fan			8 cm
Hot Swap	No	No	Yes
Keylock	No	No	No
Signal Out	No	No	SATA III 7-Pin
Color	Black	White	Black
Gross Weight	0.2 kg	0.2 kg	1.3kg

SATA Solution			
Model Name	RHD-102SATA-R20	RHD-102DW-R20	RHD-101SATA-R20	RHD-104SATA-R20
Dimensions (L x W x H) (mm)	140 x 101.6 x 25	153 x 146 x 42	140 x 101.6 x 25	149.6 x 146 x 42.1
Material	Aluminum & SPCC	Aluminum	Aluminum & SPCC	Full Metal
Interface	SATA 7 + 15 Pin	SATA	SATA 7 + 15 Pin	SATA III
Data Transfer Rate	up to 6Gb/Sec	up to 6Gb/Sec	Up to 6Gb/Sec	SATA III 6Gbps
Drive Bay Space	One 3.5" drive bay	One 5.25" drive bay	One 3.5" drive bay	1 x 5.25" Device Bay for 4 x 2.5" Hard Drive
HDD Type	2.5" SATA/SAS 2 x HDD/SSD	2.5" SATA 2 x HDD/SSD	2.5" SATA/SAS 1 x HDD/SSD	2.5" Hard Drive
Cooling Fan	No	Yes	No	4CM
Hot Swap	Yes	Yes	Yes	Yes
Keylock	Yes	Yes	Yes	Yes
Signal Out	SATA 7 Pin	SATA 7 Pin	SATA 7 Pin	SATA III 7-Pin
Color	Black	Black	Black	Black
Gross Weight	0.304 Kg	0.534 Kg	0.236 Kg	0.56kg

FCD-301

- The most suitable USB cable for IEI's CPU boards
- Support standard 3.5" drive bay, 4-pin female connector to CPU boards' pin header, length: 60cm
- RoHS compliant
- Pin definition

Ordering Information

Part No.	Description
FCD-301[C]-RS	3.5" compact drive bay with USB port, RoHS Color Code: B=Black, W=White

Pin 1	Pin 2	Pin 3	Pin 4
+5V	Data-	Data+	GND

3.5" compact drive bay with USB port

AS-35A

- Resistant to shocks and vibrations from all directions
- Support 3.5" HDD into 5.25" drive bay (AS-35A)
- Meets the following standards:
  - » MIL-SLD-810F 514.5C-1 standard
  - » 5-20Hz, 1G peak to peak
  - » 60-200Hz, 3G peak to peak
- RoHS compliant

Ordering Information

Part No.	Description
AS-35A-RS	3.5" drive anti-vibration kit, RoHS

AS-25A

- Resistant to shocks and vibrations from all directions
- Support 2.5" HDD into 3.5" drive bay (AS-25A)
- Meets the following standards:
  - » MIL-SLD-810F 514.5C-1 standard
  - » 5-20Hz, 1G peak to peak
  - » 60-200Hz, 3G peak to peak
- RoHS compliant

Ordering Information

Part No.	Description
AS-25A-RS	2.5" drive anti-vibration kit, RoHS

Cables and Connectors *HDMI / SATA HDD / Serial Cable*

	HDMI Cable	SATA HDD Cable	
Model Name	19B00-000403-00-RS	32801-000703-5000-RS-RS	32102-000100-200-RS
Cable Type	HDMI Cable	SATA HDD cable	SATA power cable
Connector	HDMI 90°	SATA 7-pin	4-pin + 2 x SATA 15-pin
Connector Type	HDMI	Lockable	SATA power connector
Length	35 cm	50 cm	15 cm

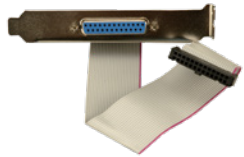|	SATA HDD Cable		
Model Name	32801-000201-300-RS	32801-000100-300-RS	32801-003706-100-RS
Cable Type	SATA + Power cable	SATA + Power cable	SATA + Power cable
Connector	SATA 7-pin + 2-pin wafer (P=2 mm)	SATA 7-pin + 4-pin wafer (P=2.54 mm)	SATA 7-pin + 4-pin
Connector Type	2-pin PH 2.0	4-pin PH 2.54 mm	
Length	SATA cable 15 cm Power cable 15 cm	SATA cable 20 cm Power cable 20 cm	SATA cable 20 cm Power cable 10 cm

	Serial cable		
Model Name	19800-000300-100-RS	19800-010900-200-RS	19800-020100-100-RS
Cable Type	Serial port cable	Serial port cable	Serial port cable
Board Side	10-pin (2x5) connector (2.0 mm)	10-pin (2x5) connector (2.54 mm)	2 x 10-pin (2x5) connector (2.54 mm)
Board Side Pitch	2.0 mm	2.54 mm	2.54 mm
Device Side	DE9M	DE9M	2 x DE9M
Bracket	Yes	Yes	Yes
Length	30 cm	50 cm	23 cm

Part numbers listed in the product catalog are for reference purposes. IEI reserves the right to implement substitution parts when the function is not affected.

Cables and Connectors *Paralle / Serial Cable*

Serial cable			
Model Name	**19800-003600-200-RS**	**19800-000200-100-RS**	**32205-000702-200-RS**	**32205-002700-200-RS**
Cable Type	Serial port cable	Serial port cable	Serial port cable	Serial port cable
Board Side	2 x 10-pin (2x5) connector (2.54mm)	2 x 10-pin (2x5) connector (2.0 mm)	10-pin (2x5) connector (2.54 mm)	10-pin (2x5) connector (2.0 mm)
Board Side Pitch	2.54 mm	2.0 mm	2.54 mm	2.0 mm
Device Side	2 x DE9M	2 x DE9M	DE9M	DE9M
Bracket	Yes	Yes	No	No
Length	40 cm	30 cm	23 cm	20 cm
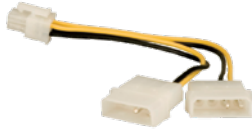
Serial cable			
Model Name	**32205-001203-200-RS**	**19800-004400-200-RS**	**19800-026400-100-RS**	**32205-003800-300-RS**
Cable Type	Serial port cable	RS-232 & RS-422/485 cable	RS-232 & RS-422/485 cable	RS-422/485 cable
Board Side	40-pin (2x20) connector (2.54 mm)	14-pin (2x7) connector (2.54 mm)	14-pin (2x7) connector (2.0 mm)	4-pin (1x4) connector (2.0 mm)
Board Side Pitch	2.54 mm	2.54 mm	2.0 mm	2.0 mm
Device Side	4 x DE9M	2 x DE9M	2 x DE9M	DE9M
Bracket	No	Yes	Yes	No
Length	40/40/40/40 cm	25.5 cm	25 cm	20 cm

Paralle cable	
Model Name	**19800-000049-RS**	**32223-000700-100-RS**
Cable Type	Parallel port cable	Parallel port cable
Board Side	26-pin (2x13) connector (2.54 mm)	26-pin (2x13) connector (2.0 mm)
Board Side Pitch	2.54 mm	2.0 mm
Device Side	DB25F	DB25F
Bracket	Yes	No
Length	24 cm	28 cm

Part numbers listed in the product catalog are for reference purposes. IEI reserves the right to implement substitution parts when the function is not affected.

Cables and Connectors   *USB / Power Cable / Keyboard / Mouse Cable*

USB cable		
Model Name	**32001-010800-200-RS**	**19800-000100-100-RS**	**CB-USB02-RS**
Cable type	USB able	USB cable	USB cable
Board side	2 x 4-pin connector (2.54 mm)	2 x 8-pin (2x4) connector (2.54 mm)	2 x 4-pin (1x4) connector (2.54 mm)
Board side pitch	2.54 mm	2.54 mm	2.54 mm
Device side	2 x USB	4 x USB	2 x USB
Bracket	No	Yes	Yes
Length	20 cm	30 cm	30 cm

USB cable			Power cable
Model Name	**CB-USB02A-RS**	**32001-002700-100-RS**	**32001-008600-200-RS**	**32100-087100-RS**
Cable type	USB cable	USB cable	USB cable	12V power cable
Board side	1 x 8-pin (2x4) connector (2.0 mm)	1 x 8-pin (2x4) connector (2.54 mm)	1 x 8-pin (2x4) connector (2.0 mm)	1 x 4-pin (2x2) connector
Board side pitch	2.0 mm	2.54 mm	2.0 mm	
Device side	2 x USB	2 x USB	2 x USB	2 x 4-pin (1x4) molex
Bracket	Yes	No	No	No
Length	30 cm	21 cm	21 cm	13 cm

Keyboard / Mouse cable			
Model Name	**19800-000066-RS**	**19800-025700-100-RS**	**32006-000300-400-RS**	**32006-001100-201-RS**
Cable type	Keyboard and mouse cable	Y-Cable	Y-Cable	Y-Cable
Board side	2 x 5-pin (1x5) connector (2.54 mm)	1 x 6-pin (1x6) connector (2.0 mm)	1 x male PS/2	1 x 6-pin (1x6) connector (2.0 mm)
Board side pitch	2.54 mm	2.0 mm		2.0 mm
Device side	2 x Female PS/2	2 x Female PS/2	2 x Female PS/2	2 x Female PS/2
Bracket	Yes	Yes	No	No
Length	30 cm	22 cm	12 cm (KB) + 14 (MS)	13 cm

Part numbers listed in the product catalog are for reference purposes. IEI reserves the right to implement substitution parts when the function is not affected.

DIN Rail Kit

KIT	
New	
Model Name	**DK-75-R10**	**DK-100-R10**
Specification	850 mm (W) x 75mm (D)	110 mm (W) x 100 mm (D)
Description	VESA 75 to DIN-rail kit	VESA 100 to DIN-rail kit

V-STAND

■ VESA Multi-Mounting Stand

IEI patented multi-mounting V-Stand allows wall, ceiling, desk, rear and side mounting to meet diverse applications. Its 0° to 90° adjustable hinge design provides optimal viewing in various environment, such as kitchen, room or shelf.

VESA	Model
75 mm x 75 mm	VSTAND-A07-R11
75 mm x 75 mm/100 mm x 100 mm	VSTAND-A10-R11
	VSTAND-A12-R11

VSTAND-A07   **VSTAND-A10**   **VSTAND-A12**

3.

0° to 90° adjustable hinge design

1.

Height adjustable and VESA 75/100 compliant mounting holes

2.

Heat dissipation holes help to cool down the system

Features:
• 0º to 90º adjustable hinge design allows comfortable viewing
• Standard VESA 75/100 compliant
• Heat dissipation holes
• Compact size, easy to use in any places

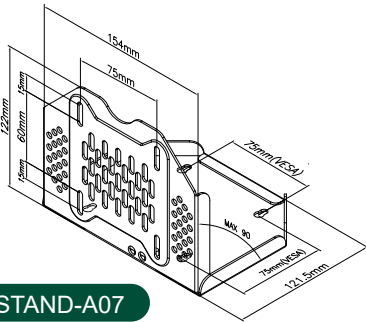## ■ Space saving and easy installation

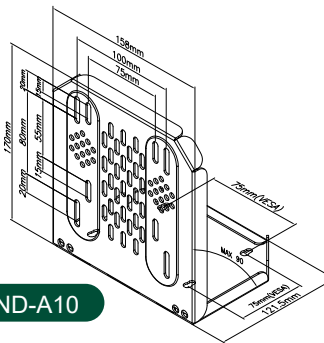1: Tighten the screws in the rear of the system's VESA mounting holes

2: Select the position to mount the stand kit
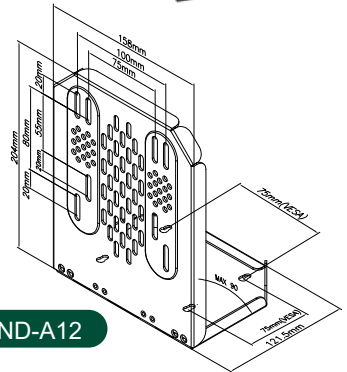
3: Power up the system to operate

Compact size provides mobility

VSTAND-A07   **VSTAND-A10**   **VSTAND-A12**

Ordering Information

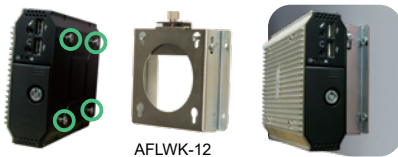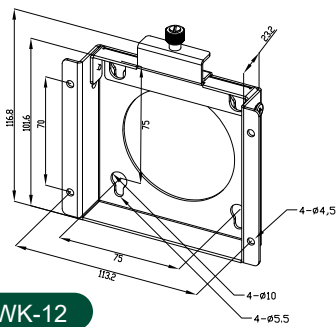| Part No.	Description
VSTAND-A07-R11	LCD monitor / PPC stand V type, for AFL series, VESA 75, 0~90 degree adjustable hinge, support up to 2.5 kg, RoHS
VSTAND-A10-R11	LCD monitor / PPC stand V type, for AFL series, VESA 75/100, 0~90 degree adjustable hinge, support up to 3 kg, RoHS
VSTAND-A12-R11	LCD monitor / PPC stand V type, for AFL series, VESA 75/100, 0~90 degree adjustable hinge, support up to 3.5 kg, RoHS

Wall Mounting

■ VESA 75/100 Wall Mounting

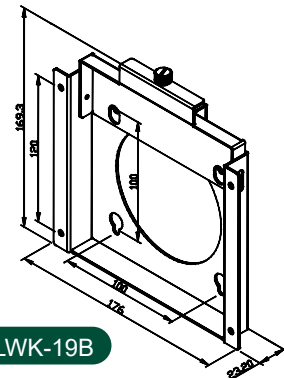Secure the panel by fastening the retention screw of the bracket.

VESA	Model
75 mm x 75 mm	AFLWK-12
100 mm x 100 mm	AFLWK-19
	AFLWK-19B

AFLWK-12

AFLWK-12   **AFLWK-19B**

Ordering Information

Part No.	Description
AFLWK-12	5.6"~12" VESA 75 PPC/monitor wall mount kit with retention screw, silver color, RoHS
AFLWK-19B	15"~19" VESA 100 PPC/monitor wall mount kit with retention screw, silver color, RoHS