

# HERMIT Series

## Industrial (Rugged Metal) CompactFlash (CF) Card



**CF**  
Industrial CompactFlash Card

**CFast**  
Industrial CFast Card

**ATA**  
Industrial PCMCIA ATA Card

**MIF**  
Industrial micro IDE Flash Module

**MSE**  
Industrial micro SATA Flash Module

**MUM**  
Industrial micro USB Module

**MPM**  
Industrial mini PCI-e Module

**SSD**  
Industrial Solid State Disk

**UFD**  
Industrial Rugged Metal USB Flash Disk

**SD**  
Industrial SD & SDHC Memory Card

**AD**  
Industrial Adapter Card-Drive

### Product features

- SLC - NAND type flash technology
- Compatible with CompactFlash® specification 3.0
- CompactFlash® Type I form-factor
- Optional for standard casing and rugged metal casing
- Compatible with ATA/ATAPI-6 standard
- Data transfer mode support PIO 0-4 and UDMA 0-4
- Performance up to 40 MB/sec
- Capacity from 128MB up to 16GB

### Product specifications

<b>Compatibility</b>	➤ ATAPI-6 and True IDE mode	<b>Power consumption</b>	
<b>Flash technology</b>	➤ SLC-NAND type flash based	Power requirement	➤ +5V ± 10% / +3.3V ± 5%
<b>Form-factor</b>	➤ CompactFlash type I	Reading mode	➤ 124 mA (Max.)
<b>Host Interface</b>	➤ Female 50 pins	Writing mode	➤ 121 mA (Max.)
<b>Performance</b>		Sleeping mode	➤ 1.8 mA (Max.)
Data transfer mode	➤ PIO-4 mode or UDMA-4 mode (def.)	<b>Reliability</b>	
Data transfer rate	➤ 66.6 MB/sec (ATA-5 / UDMA-4) ➤ 16.6 MB/sec (ATA-3 / PIO-4)	Wear-leveling	➤ Static wear-leveling algorithms
Sequential read	➤ 40 MB/sec (Max. /with dual flash)	MTBF	➤ > 3,000,000 hours
Sequential write	➤ 20 MB/sec (Max. /with dual flash)	ECC	➤ 4 bits per 512bytes block
Average access time	➤ 0.2 ms (estimated)	Endurance	➤ > 2,000,000 cycles
<b>Environmental specification</b>		<b>Physical specification</b>	
Operating temp.	➤ STD. 0°C ~ 70°C / IND. -40°C ~ +85°C	Weight (max.)	➤ Standard casing 12.0 g / 0.42 oz. ➤ Metal casing 15.0 g / 0.53 oz.
Non-operating temp.	➤ STD. -20°C ~ +80°C / IND. -50°C ~ +95°C	Dimension(W x L x H)	➤ 42.8 x 36.4 x 3.3 (mm)
Humidity	➤ 10% ~ 95% non-condensing	<b>Conformal coating</b>	➤ Option for special request
Vibration	➤ 15G compliance to MIL-STD-810F	<b>Warranty</b>	
Shock	➤ 1,500G compliance to MIL-STD-810F	Standard grade	➤ 3 years
Altitude	➤ 70,000 feet	Industrial grade	➤ 5 years

Operating temperature supports standard grade 0°C ~ 70°C and industrial grade -40°C ~ +85°C

### Part number list - Industrial CF Card with standard plastic frame kit

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	128MB	SPCFC128M-HACSC-UF	WPCFC128M-HAISI-UF
	256MB	SPCFC256M-HACSC-UF	WPCFC256M-HAISI-UF
	512MB	SPCFC512M-HACSC-UF	WPCFC512M-HAISI-UF
	1GB	SPCFC001G-HACSC-UF	WPCFC001G-HAISI-UF
	2GB	SPCFC002G-HACSC-UF	WPCFC002G-HAISI-UF
	4GB	SPCFC004G-HACSC-UF	WPCFC004G-HAISI-UF
	8GB	SPCFC008G-HACSC-UF	WPCFC008G-HAISI-UF
	16GB	SPCFC016G-HACSC-UF	WPCFC016G-HAISI-UF



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### Part number list - Industrial CF Card with rugged metal frame kit

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	128MB	SRFCFC128M-HACSC-UF	WRFCFC128M-HAISI-UF
	256MB	SRFCFC256M-HACSC-UF	WRFCFC256M-HAISI-UF
	512MB	SRFCFC512M-HACSC-UF	WRFCFC512M-HAISI-UF
	1GB	SRFCFC001G-HACSC-UF	WRFCFC001G-HAISI-UF
	2GB	SRFCFC002G-HACSC-UF	WRFCFC002G-HAISI-UF
	4GB	SRFCFC004G-HACSC-UF	WRFCFC004G-HAISI-UF
	8GB	SRFCFC008G-HACSC-UF	WRFCFC008G-HAISI-UF
	16GB	SRFCFC016G-HACSC-UF	WRFCFC016G-HAISI-UF



### Remarks: The optional data-transfer modes and disk types are -

- PF: optional as PIO-4 mode / Fixed disk type
- PR: optional as PIO-4 mode / Removable disk type
- PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection
- UF: defaulted as UDMA-4 mode / Fixed disk type**
- UR: optional as UDMA-4 mode / Removable disk type
- UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection
- AF: optional as UDMA & PIO mode auto-detection / Fixed disk type
- AR: optional as UDMA & PIO mode auto-detection / Removable disk type
- AA: optional as UDMA & PIO mode auto-detection / Fixed disk & removable disk type auto-detection

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**Part number decoder**

X1 X2 X3 X4 X5 X6 X7 X8 X9 — X11 X12 X13 X14 X15 — Z1 Z2 / C

**Example**

S P C F C 5 1 2 M — H A C S C — U F / C

**X1** ➤ **Grade**

**S** : Standard grade operating temp. 0° C ~ 70 ° C  
**W** : Industrial grade operating temp. -40° C ~ +85 ° C

**X2** ➤ **The material of frame kit**

**P** : Plastic frame kit  
**R** : Rugged metal frame kit

**X3 X4 X5** ➤ **Product category**

**CFC** : CompactFlash (CF) card

**X6 X7 X8 X9** ➤ **Capacity**

**128M** : 128MB    **002G** : 2GB  
**256M** : 256MB    **004G** : 4GB  
**512M** : 512MB    **008G** : 8GB  
**001G** : 1GB        **016G** : 16GB

**Z1 Z2** ➤ **Data transfer rate and disk types**

PF: optional as PIO-4 mode / Fixed disk type  
 PR: optional as PIO-4 mode / Removable disk type  
 PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection  
**UF: defaulted as UDMA-4 mode / Fixed disk type**  
 UR: optional as UDMA-4 mode / Removable disk type  
 UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection  
 AF: optional as UDMA & PIO mode auto-detection / Fixed disk type  
 AR: optional as UDMA & PIO mode auto-detection / Removable disk type  
 AA: optional as UDMA & PIO mode auto-detection / Fixed disk & removable disk type auto-detection

**X11** ➤ **Controller**

**H** : Hyperstone (HERMIT Series)

**X12** ➤ **Controller version**

**A,B,C.....**

**X13** ➤ **Controller grade**

**C** : Commercial grade  
**I** : Industrial grade

**X14** ➤ **Flash IC**

**S** : Samsung SLC-NAND flash IC

**X15** ➤ **Flash IC grade**

**C** : Commercial grade  
**I** : Industrial grade

**C** ➤ **Reserved for specific requirement**

**C** : Conformal-coating