

# 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

**UED**  
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




2, rue Jean Mermoz - TREMBLAY EN FRANCE - 93290  
tél: +33 (0)1 48 61 95 28 - fax: +33 (0)1 48 61 94 03  
http://www.naelcom.com - APRO-Flash@naelcom.com




Advanced Performance & Rugged Orientation

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

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

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	128MB	SRCFC128M-HACSC-UF	WRCFC128M-HAISI-UF
	256MB	SRCFC256M-HACSC-UF	WRCFC256M-HAISI-UF
	512MB	SRCFC512M-HACSC-UF	WRCFC512M-HAISI-UF
	1GB	SRCFC001G-HACSC-UF	WRCFC001G-HAISI-UF
	2GB	SRCFC002G-HACSC-UF	WRCFC002G-HAISI-UF
	4GB	SRCFC004G-HACSC-UF	WRCFC004G-HAISI-UF
	8GB	SRCFC008G-HACSC-UF	WRCFC008G-HAISI-UF
	16GB	SRCFC016G-HACSC-UF	WRCFC016G-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

**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

**UED**  
Industrial Rugged Metal USB Flash Disk

**SD**  
Industrial SD & SDHC Memory Card

**AD**  
Industrial Adapter Card-Drive

**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

**UED**

Industrial Rugged Metal USB Flash Disk

**SD**

Industrial SD & SDHC Memory Card

**AD**

Industrial Adapter Card-Drive

**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