

Industrial Grade CompactFlash™ Card

W7CFxxxA-H4 / W8CFxxxA-H4 Series

Wintec's Compact Flash card is based on industrial leading Hyperstone F4 controller chip, which is a 32-bit RISC processor with instruction set extension optimized for Flash handling. The superior wear leveling done by the controller chip involves all physical blocks including the ones containing static data to meet the most demanding requirements from users in a data traffic intensive environment.

The card contains a 50-pin connector consisting of two rows of 25 female contacts each on 50 mils (1.27mm) centers. The Industrial Grade CompactFlash™ Memory Cards are constructed with Samsung single-level-cell (SLC) NAND flash memory devices. It employs a variety of sophisticated functions, such as the Reed-Solomon error correction code which is capable of correcting up to 4 symbols in a 512 bytes sector with additional CRC for dynamic error checking. The wear-leveling methods ensure even wear of flash blocks across the entire card capacity. With background operations to track erase counts, the card prioritizes new writes to blocks with lower wear, and relocates static data to blocks with higher wear. Bad-block Management routines replace worn blocks with spare blocks reserved by the controller on card initialization. All Flash management utilities allow for maximum levels of data reliability and card endurance for prolong life cycle.

Key Features

GENERAL

- Density up to 32GB
- 32-bit RISC/DSP controller
- Large internal SRAM provides firmware flexibility
- Dual voltage support at 3.3V or 5V, and with Internal voltage detector
- 20 Kbyte internal Boot ROM and 32 Kbyte internal SRAM
- RoHS 6/6 compliant

RELIABILITY

- > 2,000,000 Program/Erase Cycles
- Industrial Wear Leveling - Includes Static Block Management
- Spares & Bad Block Management
- On-Board ECC capable of correcting 4 random bytes per 512 bytes sector with additional CRC for dynamic error checking
- High Environmental Tolerance
- 10-Year Data Retention and with Unlimited Reads

COMPATIBILITY

- Fully compliance to CompactFlash™ 3.0 and compatible to 4.1 specifications
- ATA-6 standard compatible in True-IDE mode; PCMCIA specification 2.1
- Fast ATA supporting PIO mode 6, MDMA mode 4, UDMA mode 4 in True-IDE mode
- Four integrated 8Kbyte Sector Buffers and 256 Byte PCMCIA Attribute Memory

PERFORMANCE

- True IDE Mode Capable
 - Host data transfer in PIO mode 6 or MDMA mode 4 up to 25 MByte/second
 - Host data transfer in UDMA mode 4 up to 66 MByte/second
- High Performance - 2Direct Flash Access (DFA) Channels including 2 sector buffers support interleaving operation
- Low Power Consumption:
 - Maximum operation current is 130 mA (32 GB)
 - Sleep mode current < 4 mA. (32 GB)



Wintec Type I Compact Flash
(Industrial Grade H4 Series)

Product Ordering Information

Card Capacity	Part Number	Real Capacity	Total Sectors/Card (Max LBA+1)	Cylinders	Heads	Sectors
128 MB	W7CF128M1vA(I)-H41Px-yyy.zz	131,334,144	256,512	1,002	8	32
256 MB	W7CF256M1vA(I)-H41Px-yyy.zz	262,930,432	513,536	1,003	16	32
512 MB	W7CF512M1vA(I)-H41Px-yyy.zz	526,417,920	1,028,160	1,020	16	63
1 GB	W7CF001G1vA(I)-H41Px-yyy.zz	1,054,900,224	2,060,352	2,044	16	63
2 GB	W7CF002G1vA(I)-H41Px-yyy.zz	2,118,057,984	4,136,832	4,104	16	63
4 GB	W7CF004G1vA(I)-H41Px-yyy.zz	4,244,889,600	8,290,800	8,225	16	63
8 GB	W7CF008G1vA(I)-H41Px-yyy.zz	8,455,200,768	16,435,440	16,305	16	63
16 GB	W7CF016G1vA(I)-H41Px-yyy.zz	TBA	32,014,080	31760	16	63
32 GB	W7CF032G1vA(I)-H41Px-yyy.zz	TBA	TBA	TBA	TBA	TBA

(v) Disk/Interface Options

X: Removable Disk True IDE Capable
T: Fixed Disk True IDE

(x) Component Flash IC Die Revision

A: A- die
B: B- die
C: C- die
D: D- die

(yyy) Component Flash type

001: 1-Nand Flash chip
01D: 1-Nand, Dual Die, 1-CE
1D2: 1-Nand, Dual Die, 2-CE
1Q2: 1-Nand, Quad Die, 2-CE
002: 2-Nand Flash chips
02D: 2-Nand, Dual Die, 1-CE
2D2: 2-Nand, Dual Die, 2-CE
2Q2: 2-Nand, Quad Die, 2-CE
4D2: 4-Nand, Dual Die, 2-CE
4Q2: 4-Nand, Quad Die, 2-CE

(zz) Firmware Options

01: 090721a
02: TBA
03: TBA
04: TBA
05: TBA

About Wintec Industries, Inc.

Wintec Industries, Inc. founded in 1988, is headquartered in Milpitas, California. Wintec, an ODM/OEM solution provider, specializes in product designs and manufacturing, including Flash modules (CF, SD, USB, embedded Flash, etc), DRAM modules (FBDIMM, RDIMM, SODIMM, UDIMM), wireless products, modem products (embedded, USB), Advanced Digital Display products (ADD2 DVI, HDMI, digital signage), and so on. With experienced engineering team in Silicon Valley, Wintec provides a wide range of services and solutions for customers. Wintec is ISO9001- 2000 certified.

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