APRO of Industrial Flash Memory Storages

PCMCIA ATA Flash Card

The APRO's PCMCIA ATA Flash Cards combine 3S advanced Flash controller technology and **NAND Type SLC flash memory.** The APRO's PCMCIA ATA Flash Cards come with **commercial temperature grade (0°C ~+70°C)** and **industrial temperature grade (-40°C ~+85°C)** to fulfill various specialized applications in normal or harsh operating environments. With the great advantages of non-volatile and solid state, the PCMCIA ATA Flash Cards are more robust than conventional hard disk drives and consume around 10% of the power required by small disk drives. Normally PCMCIA ATA Flash Cards are applied to Handheld PCs, PDAs, Digital Cameras, Laptops and Desk PCs as data storages devices. When a PCMCIA ATA Flash Card inserted in an IDE adapter, and it just performs as a traditional rotating disk drive. APRO's PCMCIA ATA Flash Cards are the ideal solutions for critical applications which request for long term supply with consistent key components.

Standard Temperature

Industrial Temperature

Features:

- Advanced 3S Flash controller of ATA PC Card
- NAND Type SLC Flash Memory Technology
- PCMCIA PC Card Standard 7.0; PCMCIA Card ATA Specification, 7.0
- PCMCIA Type II with 68-pin connector
- Support True IDE Mode that is electrically compatible with an IDE disk drive
- Integrated Wear-leveling and advanced bad sector management algorithms
- Advanced ECC (Error Code Correction) technology
- +5V or +3.3V operation
- Standard Grade and Industrial Grade provided
- Cards capacity from 16MB up to 4GB

Specifications:

◆ **Compatibility**	ATA-2 and ATA-3
◆ **Flash Technology**	NAND Type SLC Flash based
◆ **Form factor**	PCMCIA PC Card Type II
◆ **Connector**	2-row 68-pin connector
◆ **System Performance**	
Data Transfer Mode	PIO Mode 4
Data transfer Rate	16.6Mbytes/sec (From/To Host)
Sequential Read	8Mbytes/sec
Sequential Write	6Mbytes/sec
Average Access Time	2ms (estimated)
◆ **Environmental Specification**	
Standard temperature	
Operation	0ºC ~ +70ºC
Non-operation	-20ºC ~ +85ºC
Industrial Temperature	
Operation	-40ºC ~ +85ºC
Non-operation	-50ºC ~ +95ºC
Humidity	
Operation	5% ~ 95% non-condensing
Non-operation	5% ~ 95% non-condensing
Acoustic Noise	0dB
Shock	
Operation	1000 G
Non-operation	1000 G
Vibration	
Operation	15 G
Non-operation	15 G

◆ **Reliability**		
MTBF(Main Time Between Failure)	>1,000,000 hours	
ECC (Error Code Correction)	4 bits ECC Code	
Endurance	Greater than 1,000,000 cycles Logically contributed by Wear-leveling and advanced bad sector management	
Data Retention	10 years	
◆ **Power Consumption**		
Power Voltage	3.3V ± 5%	5V ± 10%
Read	50 mA(Max.)	65 mA(Max.)
Write	50 mA(Max.)	62 mA(Max.)
Sleeping Mode	1 mA	0.3 mA
◆ **Physical Specification**		
Weight (Max.)	43 g (1.2 oz)	
Dimension (mm/in.)	85.6 x 54.0 x 5.0 (3.37"x2.126"x0.197")	
◆ **Warrantee**		
STD. Temp. Products	1 year	
Wide Temp. Products	3 years	
◆ **Certification**	CF and FCC	

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PCMCIA ATA Flash Card

Order Information (Part Number List) :

Capacity	Standard Temp	Industrial Temp.
16MB	SPAF016S-ACSC	WPAF016S-AISI
32MB	SPAF032S-ACSC	WPAF032S-AISI
64MB	SPAF064S-ACSC	WPAF064S-AISI
128MB	SPAF128S-CCSC	WPAF128S-CISI
256MB	SPAF256S-CCSC	WPAF256S-CISI
512MB	SPAF512S-CCSC	WPAF512S-CISI
1GB	SPAF01GS-CCSC	WPAF01GS-CISI
2GB	SPAF02GS-CCSC	WPAF02GS-CISI
4GB	SPAF04GS-CCSC	WPAF04GS-CISI

Part Number Decoder:

$X_1X_2X_3X_4X_5X_6X_7$ X_8 – $X_9X_{10}X_{11}X_{12}$

X_1= Product Temperature Grading

S: Standard Temperature (0ºC ~ +70ºC)

W: Wide Temperature (-40ºC ~ +85ºC)

X_2= P: Plastic frame kit

X_3X_4= AF: ATA Flash

$X_5X_6X_7$= Card Capacity

X_8= the Brand of Flash Controller

X_9= 3S Controller models

A: 3S8833A2 B: 3S8862A1

X_{10}= Controller Grading

C: Commercial Grade; I: Industrial Grade

X_{11}= the brand of Flash Memory

S: Samsung SLC NAND Flash

X_{12} = Flash Memory IC Grading

C: Commercial Grade; I: Industrial Grade

Applications:

Laptop

Laptop

Rugged Portable PC

Testing Equipment

Tablet PC

Sewing Machine

PCMCIA ATA Flash Card to IDE Card Drives:

Part Number	Product Description
R313XX00I50XB003	1 Front PCMCIA slot to IDE 3.5” Card Drive
R323XX00I50XP003	2 Front PCMCIA slots to IDE 3.5” Card Drive support Card Protection function
R3F3XX00I50XP003	1Front PCMCIA and FDD to IDE 3.5” Card Drive supports Card Protection function
R325XX00I50XP003	2 Front slots for PCMCIA/CF to IDE 3.5" Card Drive, supports HOT SWAP
R313XX00J50XH003	1 Front slot for PCMCIA to IDE 3.5” Card Drive, supports Card Protection & HOT SWAP
R323XX00I50XH003	2 Front slots for PCMCIA to IDE 3.5” Card Drive, supports Card Protection & HOT SWAP
X000CI13I50XB003	1 Rear slot PCMCIA to IDE Card Drive
X000CI23I50XP003	2 Rear slots PCMCIA to IDE Card Drive with Card Protection
X000C113J50XH003	1 Rear slots PCMCIA to IDE Card Drive with Card Protection & HOT SWAP
R323XX00I50XH003	2 Rear slots PCMCIA to IDE Card Drive with Card Protection & HOT SWAP
R412XX00I50XB003	1 PCMCIA slot to IDE interface PC/104 Module
R424XX00I50XB003	1 PCMCIA & 1 CF slots to IDE interface PC/104 Module

Please call APRO’s Distributor if you have any questions about APRO’s products.

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