

3U CompactPCI Mass Storage Module (Controller Board)



APPLICATIONS

The TP MS1/xxx 3U CompactPCI® Mass Storage Module supports up to four 2.5 inch SATA300 mass storage drives, two on the controller board, and two additional drives on an expansion board or elsewhere in the chassis. The controller board can support various hardware RAID functions for the two additional SATA300 storage drives. Additionally there is support for a CompactFlash™ drive. The controller board is designed to work with a range of CompactPCI systems, including 32/64-bit, 33/66MHz

backplanes using 3.3V or 5V signaling. The TP MS1/xxx is capable of operating in temperatures ranging from -40°C to +85°C where it is suitable for a range of applications within the defense, industrial control, telecomms, telemetry, scientific and aerospace markets. Ruggedized air-cooled versions are planned. In harsh environments solid-state Flash drives or ruggedized rotating drives are required.

HIGHLIGHTS

- 3U CompactPCI Mass Storage Controller board:
 - controller supports SATA300 (and SATA150) drives
 - option for 32-bit or 64-bit CompactPCI bus
 - supports 33/66MHz PCI signaling
 - 5 Volt or 3.3 Volt universal signaling
- supplied with up to four 2.5 inch SATA300 drives:
 - two drives on the controller board, plus Type-I CompactFlash site
 - two off-board drive interfaces (including hardware RAID) to the expansion board, or elsewhere in the system chassis
 - requires between 1 to 4 CompactPCI 3U 4HP slots
- RAID modes supported for the two off-board drives:
 - FAST (RAID 0) and SAFE (RAID 1)
 - BIG (drive concatenation)
 - SAFE33 and SAFE50 (SAFE and BIG combined)
- In harsh environments solid-state Flash drives or ruggedized rotating drives will be required
- Extended temperature options also available:
 - -25°C to +70°C (E-Series)
 - -40°C to +85°C (K-Series, includes humidity sealant)
 - specialized drives required
- Ruggedized air-cooled version (RA-Series) planned:
 - -40°C to +75°C
 - conformally coated
 - specialized drives required
 - see separate TP MS1/xxx-RA datasheet
- Supported operating systems depend on the 3U CompactPCI system controller used

Mass Storage Module

- 3U CompactPCI Mass Storage Controller board:
 - supports up to four SATA300 (and SATA150) 2.5 inch drives
- TP MS1/xxx supplied with up to four 2.5 inch SATA300 drives:-
 - two drives on the controller board, includes Type-I CompactFlash site
 - two off-board drive interfaces (including hardware RAID) to the expansion board, or elsewhere in the system chassis
- RAID modes supported for the two off-board drives:
 - FAST (RAID 0) and SAFE (RAID 1)
 - BIG (drive concatenation)
 - SAFE33 and SAFE50 (SAFE and BIG RAID modes combined)

Compatible CompactPCI SBC

- 3U CompactPCI Single Board Computer:-
 - air cooled versions only
- TP 442/34x, Intel® Core™ 2 Duo processor
- TP 442/340, Intel® Celeron® M processor
- TP 402/351, Intel® Core™ 2 Duo processor
- TP 302/32x, Intel® Pentium® M processor

Software Support

- supported operating systems depend on the 3U CompactPCI system controller used

CompactPCI Bus Interface

- pinout conforms to PICMG 2.0 R3.0:-
 - supports universal signaling
 - option for 32-bit or 64-bit CompactPCI bus
 - supports 33MHz and 66MHz signaling
- bus interface via drive controller board
- drive expansion board requires power for its drives from backplane P1 connector

Electrical Specification

- 3.3V is required for the controller board, 5V is required for the SATA drives:-
 - maximum 0.8A @3.3V
 - maximum 1.1A / disk @5V
- +12V@0.0A; -12V@0.0A

Safety

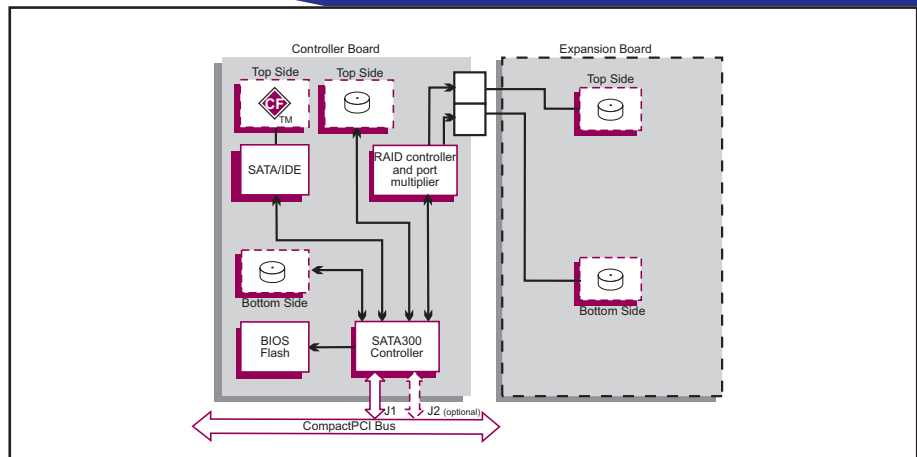
- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- operating temperatures:-
 - depends on SATA drive fitted (N-Series)
 - -25°C to +70°C (E-Series)
 - -40°C to +85°C (K-Series)
- operating and storage temperatures:-
 - contact local sales office
- Relative Humidity, non condensing (operating and storage):-
 - contact local sales office
 - K-Series includes humidity sealant
- ruggedized air-cooled version is planned:-
 - see separate TP MS1/xxx-RA datasheet

Mechanical Specification

- 3U form-factor: 3.9 inches x 6.3 inches (100mm x 160mm)
- up to four SATA300 2.5 inch drives supported
- requires 1, 2, 3 or 4 CompactPCI 4HP slots
- connectors: IEC-1076-4-101 for J1-J2



3U 4HP Controller board with CompactFlash site
(Hard disk drive omitted for clarity)



3U 8HP Expansion board with two SATA300 drives
(fits into a slot to the right of the controller board)

ORDERING INFORMATION

Order Number	Product Description (Hardware)
TP MS1/x11-t0	3U Mass Storage Controller, one SATA300 drive
TP MS1/x11-tb	3U Mass Storage Controller, two SATA300 drives
TP MS1/100-tb	3U Mass Storage Expansion, two SATA300 drives

(-tb where t = top and b = bottom)

Ordering examples...

TP MS1/211-t0	one SATA300 typical capacity HDD drive fitted onto Controller board, used with 32-bit CompactPCI backplane, 4HP slot
TP MS1/311-22	two SATA300 larger capacity HDD drives fitted onto Controller board, used with 64-bit CompactPCI backplane, 8HP slot
TP MS1/100-11	two SATA300 larger capacity HDD drives fitted onto Expansion board (need to include a controller board with the order), 12HP or 16HP slot

(For drive capacity contact local sales office)

All companies and product names are trademarks of their respective organizations. Specification subject to change; E and OE. RoHS 2002/95/EC compliant.

For extended temperature, E, K or RA-Series, please contact your local sales office

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