MIC-3812

3U CompactPCI® Serial MXM Carrier Board

Preliminary

Features

- 3U Height CompactPCI Serial interface peripheral board
- Carrier board for a MXM 3.1 graphics module
- 2 HDMI & 2 DisplayPort connectors on front panel
- Supports type A (82 mm x 70 mm), type B & Type B^+(82 mm x 105 mm) MXM graphics module
- Designed to meet EN50121-4, EN50121-3-2 and EN50155 standards
- PICMG CompactPCI Serial (CPCI-S.0 R2.0) compliant

Introduction

MIC-3812 is a 3U 8HP MXM carrier peripheral board, following the CPCI-S.0 standard. It can support 2 x HDMI 2.0 and 2 x DisplayPort 1.4a connectors on the front panel, with 1 x DP switchable to the backplane as defined by the user through onboard jumper settings. The carrier is able to accommodate either type A (82 mm x 70 mm), type B, or type B+ (82 mm x 105 mm) graphics modules, especially among Advantech brand MXM GPU modules. An extra power board is necessary to support TGP over 60 W for stable module operation, which is assembled on the carrier's second layer from the P1 connector. P6 is not assembled by default but can be provided upon request for even more mechanical stability.

To optimize computing performance, it is recommended to install the board in a CompactPCI® Serial fat pipe slot, which provides a PCI Express® x8 interface. In embedded mission-critical applications, a GPU TGP power less than 115 W is preferable, and forced air is needed in the chassis.

MIC-3812 is designed to meet EN50155, EN50121-3-2, and EN50121-4 standards, with its excellent capabilities in mechanical, EMC, safety, and wide temperature range features. It is especially suited for harsh and rugged applications like railway, medical, and defense, etc.

Specifications

Backplane Interface	PCIe Gen3 x8 to backplane from P1/P2 1 x DP (switch to front IO) to backplane from P3		
Front Panel	2 x HDMI 2.0 2 x DisplayPorts 1.4a		
Dimension	3U/8HP, 100 mm x 160 mm		
	Weight: 200 g (not including heatsink)		
OS Support	Windows 10 , Linux Centos (dependent on MXM module)		
Environment		**Operating**	**Non-Operating**
	Temperature	-40°C ~ 70°C (-40°F ~ 158°F) (dependent on MXM module and heatsink solution)	-40°C ~ 85°C (-40°F ~ 176°F)
	Humidity	95% @ 40°C, non-condensing	95% @ 60°C, non-condensing
	Vibration	Vibration: 2 Grms, random (5 Hz ~ 500 Hz) Shock: 10 G, 11 ms, each axis three times, operation mode	

Ordering Information

Part Number	Description	MXM Module	Heatsink
MIC-3812-A1D1	MXM carrier for type A MXM module	No	No
MIC-3812-B1D1	MXM carrier for type B MXM module	No	No
MIC-3812-C1D1	MXM carrier for type B+ MXM module	No	No
MIC-3812G-A2000	MXM carrier with MXM A2000 module & heatsink	RTX A2000, 8 GB GDDR6	Yes

Note:
1. All thermal solution is validated under Advantech designed MXM modules.
2. Forced air is mandatory on 55°C / 70°C.
3. Heatsink design is based on different MXM modules, please contact local sales for optimum solution.
4. 4HP height card on request.

Optional Accessory

Part Number	Description
1970005623T001	Heatsink for Type A/B MXM module
1970005756N001	Heatsink for Type B+ MXM module

Related Products
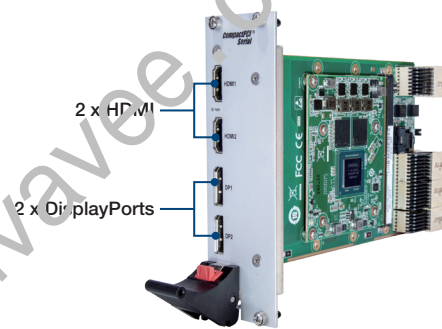
Recommended CPU Board	Description
MIC-330 Series	3U CPCI-Serial 9th Gen. Intel® Processor Blade
MIC-330V2 Series	3U CPCI-Serial 11th Gen. Intel® Processor Blade

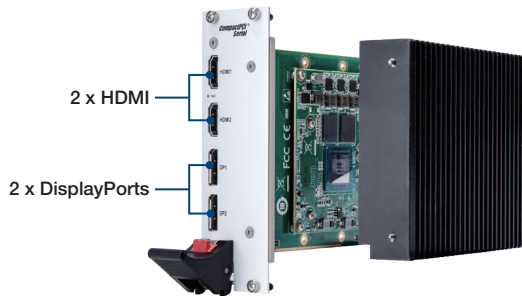| Recommended MXM Module	Description
SKY-MXM-T1000-4SDB	Quadro T1000 MXM 4 GB Discrete mode type A
SKY-MXM-A1000-4SDA	Quadro A1000 MXM 4 GB Discrete mode type A
SKY-MXM-A2000-8SDA	Quadro A2000 MXM 8 GB Discrete mode type A
SKY-MXM-A500-4SHA	Quadro A500 MXM 4 GB MS Hybrid mode type A
SKY-MXM-R3000-6SDA	Quadro RTX 3000 MXM 6 GB Discrete mode type B
SKY-MXM-A4500-6SDA	Quadro RTX A4500 MXM 16 GB Discrete mode type B+

Recommended Chassis & Power	Description
MIC-300A Series	3U CPCI-Serial 84HP/44HP width, 3U/4U height chassis, with 8 slots backplane & mini fan
MIC-3890	3U CPCI-Serial DC-DC power module, 110 V in/ 12 V & 5 V out, 250 W
XMIC330-HAC300S	3U CPCI-Serial AC-DC power module, 12 V & 5 V output, 300 W

Product Pictures

MIC-3812 with Type A

2 x HDMI

2 x DisplayPorts

Without Heatsink

2 x HDMI

2 x DisplayPorts

With Heatsink