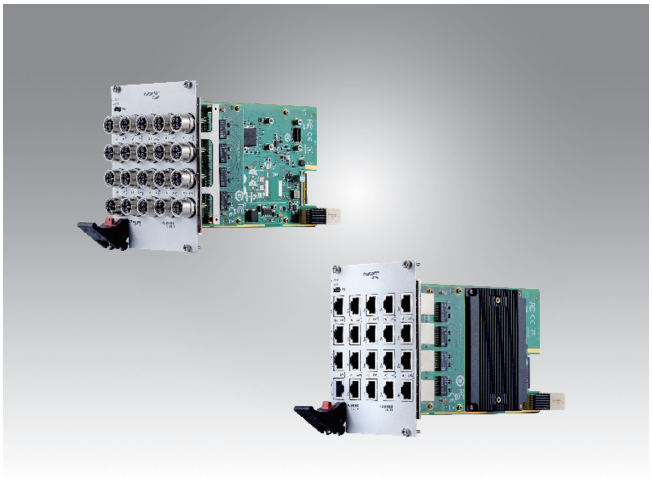
MIC-3850 Series

Industrial L2 Full Gigabit Modular Switch Card with 4 x 10G Base-T managed Ethernet



Features

- 3U Height CompactPCI Serial form factor
- Up to 22 Gigabit ports and 4 10G Base-T ports
- Redundancy: X-Ring Pro, X-Chain
- DHCP option 82 for flexible host configuration
- Security: 802.1X (port-based, MD5/PEAP encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB, private MIB
- Wide operating temperature range of -40~70°C
- Designed to meet EN50121-4 and EN50155
- PICMG CompactPCI Serial(CPCI-S.0 R2.0) compliant

Introduction

The MIC-3850 is a 3U managed Ethernet Switch card following the CompactPCI Serial form factor. It offers up to 22 Gigabit and 4 10G Base-T ports, with 19 Gigabit and 1 10G port on RJ-45/X-code M12 front connectors. The remaining 3 Gigabit and 3 10G ports are for backplane communication via the CompactPCI Serial P6 connector.

The CompactPCI® Serial backplane connector P1 provides the +12V power supply. Additionally, one console port in RS232 mode connects to a USB Type-C front panel connector for debugging purposes.

The MIC-3850, on a suitable CompactPCI® Serial backplane, can cascade into a switch fabric with scalable GbE and 10G ports, with or without a CPU card. It also includes a reserved pin header to support a Wi-Fi Dual-Band Access Point Embedded Module. When combined with a CompactPCI® Serial CPU or GPU board, it forms a high-performance router system.

The MIC-3850 is designed to meet EN50155 and EN50121-4, delivering robust mechanical, EMC, safety, and environmental performance. It is especially suited for harsh environments such as railways.

Specifications

Interface	▪ Ethernet Port: Total up to 22 x GbE ports and 4 x 10G ports are in use on-board – Up to 19 x GbE ports and 1x 10G port connected to front panel connectors, M12 or RJ-45 interface available – Another 3 x GbE ports and 3 x 10G ports are available to backplane via CompactPCI serial con. P6 – The number of GbE ports and 10G Base-T ports are scalable ▪ Console Port: USB type C (UART) ▪ Power Connection: The CompactPCI® Serial backplane connector P1
Front Panel	▪ Up to 19 x GbE ports and 1x 1/10G port connected to front panel connectors, M12 or RJ-45 interface available ▪ The number of GbE ports and 10G Base-T ports are scalable ▪ 1 x USB Type C port for console
LED Display	▪ System LEDs: PWR indicates Power LED, green is power on, yellow on is power off. ▪ Port LEDs: LAN link/activity LEDs: – LAN Link: GbE LAN LED: 100M speed: yellow; 1000M speed: green; others: off 10GbE LAN LED: 1000M speed: yellow; 10G speed: green; others: off – LAN Activity: green blinking ▪ PoE LEDs on XTM board: – PoE on: green – PoE off: off
Switch Properties	▪ DRAM: 2048MB ▪ Flash: 64MB ▪ Max. IGMP group: 1024 ▪ Max static VLANs: 256 ▪ VLAN ID range: 1-4094 ▪ MAC table: 16K ▪ Jumbo frame: 12KB ▪ Packet buffer: 12Mbits ▪ Max priority queues: 8
L2 Features	▪ Link aggregate: static trunk, 802.3ad LACP ▪ VLAN: IEEE 802.1Q tag-based, 802.1ad VLAN stacking, GVRP, GMRP, private VLAN ▪ Port mirroring: per port, multi-source port ▪ IP multicast: IGMP snooping v1/v2/v3, MLD snooping ▪ Redundancy: IEEE 802.1D-STP, IEEE 802.1s-MSTP,IEEE 802.1w-RSTP

Last updated: 15-Sep-2025

Specifications (Cont.)

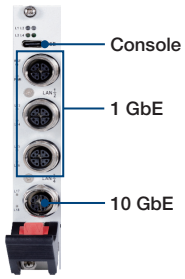
QoS	▪ Priority queue: scheduling WRR (weighted round robin), SP (strict priority) ▪ Class of service: IEEE 802.1p based CoS, IP TOS, DSCP, port priority ▪ Rate limit: ingress/egress rate limit		
Security	▪ Loop detection: port-based detection/prevention ▪ Storm control: broadcast, unknown multicast, unknown unicast ▪ Port security: static MAC, MAC violation notice ▪ Authentication: 802.1x (port-based), 802.1x (MAC-based), RADIUS, TACACS+ ▪ Account manager: multiple account ▪ IP security: IP source guard, DHCP snooping, ARP spoofing ▪ ACL: L2, L3 access control list, permit/deny/redirect		
Management	▪ DHCP: client, server ▪ Config & access: IPv4/IPv6, SNMP v1/v2/v3, WEB GUI, Telnet, RMON, SSH 2.0, SSL(TLSv1) Standard MIB, private MIB ▪ Upgrade/backup: TFTP, HTTP, SFTP; firmware dual image ▪ Others: SNTP/NTP client, DNS client, syslog		
On-Board Features	▪ Reserve PoE function on XTM-board by request, support IEEE 802.3 af/at mode ▪ Reserve WIFI function on XTM I/O board by request		
Power Consumption	▪ MIC-3850-B1S1: 15W ▪ MIC-3850-B3D1/MIC-3850-A3D1: 18W		
Dimension	▪ Up to 3U/20HP, 100x160mm ▪ Weight: MIC-3850-B1S1, 380g MIC-3850-B3D1/MIC-3850-A3D1, 650g		
Switch Standards	▪ IEEE 802.3 for 10BaseT ▪ IEEE 802.3u for 100BaseT(X) ▪ IEEE 802.3ab for 1000BaseT(X) ▪ IEEE 802.3an for 10GBaseT(X) ▪ IEEE 802.3x for flow control ▪ IEEE 802.1D-2004 for spanning tree protocol ▪ IEEE 802.1w for rapid spanning tree protocol ▪ IEEE 802.1s for multiple spanning tree protocol ▪ IEEE 802.1p for class of service ▪ IEEE 802.1Q for VLAN tagging ▪ IEEE 802.1X for authentication ▪ IEEE 802.3ad for port trunk with LACP		
Environment		Operating	Non-Operating
	Temperature	-40~70°C (-40 ~ 158°F) supported based on standard 3U chassis with forced airflow	-40 ~ 85°C (-40 ~ 176°F)
	Humidity	95% @ 40°C, non-condensing	95% @ 60°C, non-condensing
	Vibration	2G rms	

Ordering Information

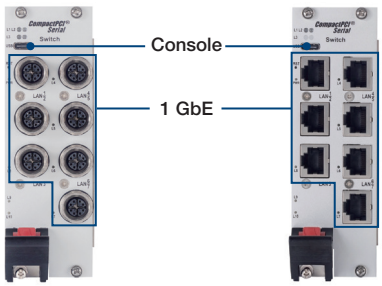
Part Number	Width	Ports	GbE Ports		10 GbE Ports	
			Front Panel	To Rear Backplane P6	Front Panel	To Rear Backplane P6
MIC-3850-B1S1	4HP	M12	3	3	1	3
MIC-3850-B3D1	8HP	M12	7	3	0	0
MIC-3850-A3D1	8HP	RJ45	7	3	0	0

Product Pictures

MIC-3850-B1S1



MIC-3850-B3D1



MIC-3850-A3D1

On Request