MIC-3890V2

3U CompactPCI® Serial DC 300W Power Supply Unit

Features

- 3U x 8HP CPCI serial form factor.
- Front panel has a 1x 110V input via an M12 male connector, 3 x 24V outputs via M12 female connectors, and 1 x 12V output to the backplane
- Wide operating temperature -40°C to +70 °C.
- N+1 redundancy, hot-swappable.
- PMBus communication.
- Wide input 66-160V_{DC}.
- 85% Plus efficiency.
- Meets EN50155 class S2 & C2 compliance.

Introduction

The MIC-3890V2 series are 3U/8HP CompactPCI® Serial power supply units designed for use in demanding environments such as railway rolling stock. These units accept a wide input voltage range of 66-160VDC via a front-panel connector. The total power output is 300W, delivering 12V to the backplane for system power, with a maximum of 300W when there is no load on the 24V outputs. Additionally, the front panel provides three 24V outputs, supplying up to 100W to power external devices. The power supply supports PMBus communication, allowing real-time monitoring of voltage, current, and temperature. Its wide input range and temperature tolerance make it ideal for harsh environments.

Specifications

	item	Specification
Input	input Voltage range	66V-160V_{DC}, nominal 110V
	Input Current	Typical 3.5 A at 110VDC
	Inrush Current	Peak 4.5A at nominal 110VDC
	MAX Current	7A
	Input Connector	Harting M12 Male connector 21033213401
Output	Output Voltage	Vo1: +12V, Vo2: +24V
	Output Current (Max.)	Vo1: 25A, Vo2:4.16A
	Output Wattage	total 300W, 24V output total Max 100W; 24V no loading, 12V operation with 300W loading
	Output Connector	12V: FCI 51939-667LF 24V: M12 Female connector 21033214501
	Line Regulation	Typical 2%
	Load Regulation	Typical 2%
	Voltage Regulation	Typical 1%
	Noise & Ripple	12V: max 120mV PP; 24V max 240mV PP
General	Efficiency	Typical 85% at 110V_{DC}
	Dielectric Withstand	I/P-O/P: 1500V_{AC} I/P-GND:1500V_{AC} O/P-GND: 500V_{AC}
	N+1 Redundancy	Available
	Hot-swappable	Available
	DC OK	Available
	Power Fail Signal	Available
Protection	Over Voltage	Available
	Over Current	Available
	Over Load	Available
	Over Temperature	Available (110°C)
LED	Input OK	Input LED: Green / faulty LED: off
	Input Faulty	Input LED: off / faulty LED: red
	12V Output OK	12V output LED: green / faulty LED: off
	12V Output Faulty	12V output LED: off / faulty LED: red
	24V Output OK	24V output LED: green / faulty LED: off
	24V Output Faulty	24V output LED: off / faulty LED: red
Environmental	Operating Temperature	-40 ~ 70°C (-40 ~ 158°F) (with air flow and derating)
	Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
	Operating Humidity	95% @ 40°C, non-condensing
	Non-operating Humidity	95% @ 60°C, non-condensing
	Shock	10 G, 11ms, each axis three times, operating mode
	Vibration	2Grms (5 ~ 500 Hz)

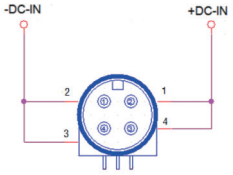
Last updated: 14-Oct-2024

Output Voltage & Current Rating Chart

Assignment	Voltages	Minimum	Maximum
V1	12V	0A	25A
V2	24V	0A	4.16A

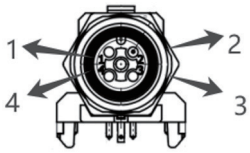
Pin Assignments

1. 110V Input M12 Connector



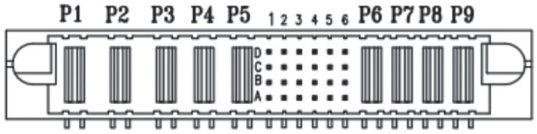
Pin	Name	Remark
1,4	+110V	Input anode
2,3	-110V	Input cathode

3. 24V Output M12 Connector



Pin	Name	Remark
1	24V+	output anode
2	24V-	output cathode
3	NC	NC
4	NC	NC

2. Backplane Connector: FCI 51939-667LF



P1	P2	P3	P4	P5	D1	D2	D3	D4	D5	D6	P6	P7	P8	P9
N/A	N/A	GND	Vin-	Vin+	N/A	FAL	PS-P	COM	DEG	N/A	COM	COM	V1	V1
					C1	C2	C3	C4	C5	C6				
					N/A	ALERT	COM	A0	N/A	N/A				
					B1	B2	B3	B4	B5	B6				
					N/A	12VCS	PSON	A1	SCL	COM				
					A1	A2	A3	A4	A5	A6				
					N/A	-VS	+VS	A2	SDA	EN				

Ordering Information

PN	Description
Y5A3890000-96	3U/8HP CPCI-S 300W DC-IN power

CPU and Peripheral I/O Board Description

Models	Description
MIC-330	3U CPCI-Serial main board.
MIC-330V2	3U CPCI-Serial main board
MIC-332	3U CPCI-Serial AI board
MIC-300A	3U CPCI-Serial chassis
MIC-3861	3U CPCI-Serial 10G LAN board
MIC-3860	3U CPCI-Serial 2.5G LAN board
MIC-3810	3U CPCI-Serial PCIe carrier board
MIC-3820	3U CPCI-Serial SATA carrier board
MIC-3811	3U CPCI-Serial Dual Mini-PCIe carrier board
MIC-3954	3U CPCI-S Quad Mini-PCIe & M.2 carrier board
MIC-3812	3U CPCI-Serial MXM GPU carrier board

Product Photo