



CHP Max5000™ Converged Headend Platform Chassis, Power Supply, and Element Management Technical Specification

Chassis Specifications

Chassis Interfaces

SNMP Interface (Note 1)	Connector: RJ-45; Electrical Interface: 10BaseT Ethernet
Shelf Interconnect Interface	Connector: RJ-14; Electrical Interface: RS-485
Local Alarm Terminal Interface	Connector: Terminal block; Electrical Interface: NO, NC, or C (Note 2)

Mechanical Specifications

Chassis Dimensions (W x H x D) in(cm)	19 x 3.5 x 18 in (48.3 x 8.9 x 45.7 cm)
Module Port Dimension, 1wide(W x H x D) in(cm)	1.25 x 3.0 x 15.7 in (3.2 x 7.6 x 39.9 cm)
Weight, empty (Note 3)	15.5 lbs (7.0 kg)

Environmental Specifications

Operational Temperature Range	32 to 122°F (0 to 50°C)
Storage Temperature Range	-40 to 158°F (-40 to 70°C)
Humidity, noncondensing, max	85%

Notes:

1. Requires use of system management module (SMM).
2. Dry contact closures. NO = Normally Open. NC = Normally Closed. C = Common.
3. Chassis enclosure and backplane without modules.

CHP-PS/AC1-Q Specifications

Powering Specifications

Input Voltage, 47 to 63 Hz	85 to 264 V _{AC}
Input Current Limit, continuous, RMS, max.	6.0 A
Inrush Current Limit, peak, max.	30 A
Input Transient, IEEE C62.41-1991 Category B 1.2, 50 μs	4 kV/0.13 kA
Power Consumption, max.	402 W
Input Connector	IEC 320-C14 plug

Output Voltages and Current

12.0 V _{DC} +0.35/-0.0 V _{DC}	10 A
5.0 V _{DC} +0.2/-0.05 V _{DC}	22 A
-5.0 V _{DC} +0.05/-0.2 V _{DC}	1.8 A
3.5 V _{DC} ± 0.1 V _{DC}	2.2 A

Technical Specifications

CHP-PS/AC1-Q Specifications

Output Noise Ripple, RMS	25 mV @ 12.0V output, 25 mV @ 5.0V output 20 mV @ -5.0V output, 20 mV @ 3.5V output
Efficiency, min.	68%
Power Factor	0.9
Status Interface	
Functions Monitored	All DC voltages, internal temperature, fan currents
Mechanical Specifications	
External Dimensions (W x H x D) in (cm)	3.9 x 1.57 x 14.46 in (9.91 x 3.99 x 36.73 cm)
Weight	2.75 lbs (1.24 kg)
Environmental Specifications	
Operational Temperature Range	32 to 122°F (0 to 50°C)
Storage Temperature Range	-40 to 158°F (-40 to 70°C)
Humidity, noncondensing	5 to 95%

CHP-PS/DC1-Q Specifications

Powering Specifications	
Input Voltage	-72 to -36Vdc
Input Current Limit, max.	12.0A @ 36Vdc
Inrush Current Limit, max.	40A (Note 1)
Power Consumption, max.	379W
Input Connector	3-pin male conn., mates with power plug (P/N MT0401)
Output Voltages and Current	
12.0Vdc +0.35/-0.0Vdc	10A
5.0Vdc +0.2/-0.05Vdc	22A
-5.0Vdc +0.05/-0.2Vdc	1.8A
3.5Vdc ± 0.1Vdc	2.2A
Output Noise Ripple, RMS	25 mV @ 12.0V output; 25 mV @ 5.0V output 20 mV @ -5.0V output; 20 mV @ 3.5V output
Output Noise Switching Spikes, peak to peak	100mV @ 12.0V output; 100mV @ 5.0V output 60mV @ -5.0V output; 60mV @ 3.5V output
Efficiency, min. (Note 3)	65%
Status Interface	
Functions Monitored	Input and all DC voltages, internal temperature, fan currents
Mechanical Specifications	
External Dimensions (W x H x D) in (cm)	3.9 x 1.57 x 14.46 in (9.91 x 3.99 x 36.73 cm)
Weight	2.75 lbs (1.24 kg)
Environmental Specifications	
Operational Temperature Range	32 to 122°F (0 to 50°C)
Storage Temperature Range	-40 to 158°F (-40 to 70°C)
Humidity, noncondensing	10 to 95%, not to exceed 0.024 lbs of water/lb of dry air
Regulatory Requirements (Note 4)	
	UL60950 3rd Ed/CSA C22.2 number 60950 and EN60950
	EN50083-2
	EN300 386 V1.3.1
	FCC Part 15, Class A

CHP-PS/DC1-Q Specifications

FCC Part 76, Subpart K
EN55022, Class A

Notes:

1. Inrush current shall not trip a 15 A mains external circuit breaker during a Hot Start condition. Hot Start occurs when a thermally stabilized power supply is removed and immediately reinserted.
2. Inrush current shall not trip a 20 A mains external circuit breaker during a Hot Start condition. Hot Start occurs when a thermally stabilized power supply is removed and immediately reinserted.
3. When operating at 25°C over the input operating range with a full rated output load.
4. All emissions tests must be passed in two configurations: two power supplies operating redundantly and a single power supply installed in a chassis configured to provide maximum system load.

CMM and SMM Specifications

RS-232	38.4kbps
RS-485 (Shelf Interconnect, RJ-14 connectors on chassis)	38.4kbps
Craft Interface Port (DB-9 female)	RS-232
RS-232 Debugging Port (SMM only)	19.2kbps
RJ-45 (Ethernet)	10Mbps
Serial Peripheral Interface Bus	480kbps
Operational Temperature	0 to 50°C (32 to 122°F)

Ordering Information

Platform Components

Component Type	Model Series	Description
Chassis	CHP-CHASSIS-19S	19-inch CHP MAX5000 chassis with enhanced backplane and slots for 10 application modules and 2 power supplies
	CHP-CHASSIS-R-19S-B	19-inch CHP MAX5000 chassis with enhanced backplane and mounting holes for offset installation, slots for 10 application modules and 2 power supplies
	CHP-CHASSIS-R-19S	19-inch CHP MAX5000 recessed chassis for use with front fiber applications, includes enhanced backplane and slots for 10 application modules and 2 power supplies
23-in External Bracket	CHP-EXTBKT-23	Bracket adapts 19-inch chassis to install in a 23-inch rack.
Power Supply	CHP-PS/AC1-Q	Isolated 250 Watt power supply accepting 110/220 VAC input.
	CHP-PS/DC1-Q	Isolated 250 Watt power supply accepting –48Vdc input.
Craft Mgmt. Module	CHP-CMM-1	Allows local monitoring and management via laptop computer connected to the RS-232 connector on the front of the CMM-1.
Craft Mgmt. Software	CHP-CMS-1	Software that provides graphical user interface (GUI) and enables local communication for module setup and monitoring of a CHP Max5000 shelf from a portable computer.
System Mgmt. Module	CHP-SMM-1	Provides all CMM functionality and SNMP port for remote management. Also provides remote access to the CMM interface using an IP connection through the Ethernet interface on the back of the shelf from the remote GUI software.

www.arrisi.com

The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice. ARRIS, the ARRIS logo, Auspice®, C3™, C4®, C4c™, Cadant®, C-COR®, CHP Max™, CHP Max5000™, ConvergeMedia™, Cornerstone®, CORWave™, CXM™, D5®, Digicon®, ENCORE®, Flex Max®, HEMI®, Keystone™, MONARCH®, MOXI®, n5®, nABLE®, nVision®, OpsLogic®, OpsLogic® Service Visibility Portal™, PLEXIS®, PowerSense™, QUARTET®, Regal®, ServAssure™, Service Visibility Portal™, TeleWire Supply®, TLX®, Touchstone®, EGT VIPr®, VoiceAssure™, VSM™, and WorkAssure™ are all trademarks of ARRIS Group, Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. © Copyright 2010 ARRIS Group, Inc. All rights reserved. Reproduction in any manner whatsoever without the express written permission of ARRIS Group, Inc. is strictly forbidden. For more information, contact ARRIS.