

Optoelectronics

Prisma II™ Platform

Description

In optical transmission systems, the network platform forms the foundation of the product family. The Prisma II™ platform provides network operators with the unique features that enable the deployment of a “carrier class”-type network. Advanced features such as high usable module density, broad operating temperature range for field deployment without environmental controls, and a unique design optimized for easy module insertion, setup, and administration make the Prisma II platform the key to increased network reliability, scalability, and more cost-effective deployments.

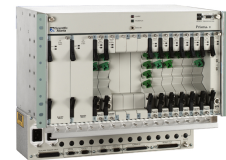
Features

- 1 GHz capable
- High usable module density (up to 13 modules per chassis)
- Operating temperature range suitable for outdoor field deployment
- Solid metal construction
- Low power consumption
- Superior heat dissipation and air circulation
- Front access and rear access chassis available
- Technician-friendly design with easy module insertion and removal, setup, and administration
- High-speed passive backplane to support migration to digital transmission technologies such as Scientific-Atlanta's bdr™ Digital Reverse System
- Excellent fiber, powering, and RF cable management
- Advanced SNMP-oriented network monitoring and control over multiple network interfaces
- Multiple connector and powering options
- User-friendly alarm setup
- Master / Slave Redundant switching between modules
- Supports Web Browser and Command Line Interface (CLI)

Platform Components

The Prisma II platform consists of the following modules/components:

- Chassis with fan tray (front and rear access)
- Power Supply System
- Intelligent Communications Interface Module 2 (ICIM2)
- Module Blanks



Front Access Chassis



Rear Access Chassis

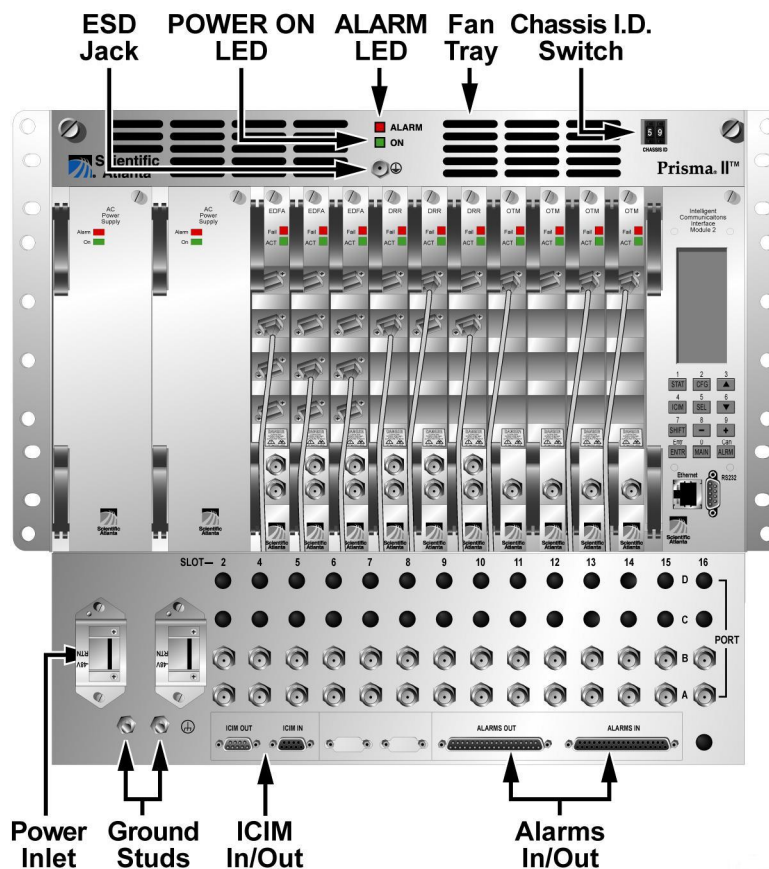


Power Supply System



ICIM 2

Prisma II Chassis Configuration



Slots 1 through 16, left to right

- Slots 1 and 3 are dedicated to power supplies.
- Slots 2 and 4 can accommodate any single width Application Module (*i.e.*, Optical Amplifier, Transmitter, Receiver, etc.).
- Slots 5 through 16 can accommodate any Application Module.
- Intelligent Communications Interface Module 2 (ICIM2), if used, must be installed in Slots 15/16.
(Note: An ICIM or ICIM 2 is not required in every chassis.)
- Blanks required in all unused slots of chassis to maintain proper cooling for all other modules.
- High-Density Modules require a separate Host Module

Prisma II products include some of the industry's most complete range of high performance optical components.

For more information please refer to:

Prisma II 1310 nm High-Density Transmitters
Prisma II 1 GHz 1550 nm Transmitters
Prisma II 1550 nm Optical Amplifiers
Prisma II Forward Optical Receivers
Prisma II Reverse Optical Receivers
Prisma II Redundancy Interface Panel
Ancillary Modules
bdr™ Digital Reverse 2:1 Multiplexing System
bdr™ Digital Reverse 4:1 Multiplexing System

Data Sheet Part Number 7006768
Data Sheet Part Number 7009178
Data Sheet Part Number 739202
Data Sheet Part Number 7011887
Data Sheet Part Number 7011888
Data Sheet Part Number 751713
Data Sheet Part Number 739205
Data Sheet Part Number 744484
Data Sheet Part Number 746623

Chassis

Features

- 1 GHz capable
- Rear access; 10.5" (6 RU) high, 13.5" deep
- Front access; 14.0" (8 RU) high, 11.25" deep
- 19-inch width with mounts available to fit 23-inch rack
- Chassis accommodates 16 single-width modules
- Blind mate (push-on) connectors for RF, power, and data provide complete front access for simplified installation and maintenance
- Advanced fiber handling system accommodates front or rear fiber routing
- Optional Intelligent Communications Interface Module 2 (ICIM2) for element management
- Front panel Local Craft Interface (LCI) port for local module configuration
- Designed for dual, redundant powering via AC or DC power supplies
- Chassis cooling fans for enhanced air circulation and heat dissipation
- Extended operating temperature range (-40°C to +65°C)
- Option for "F" or "BNC" connectors



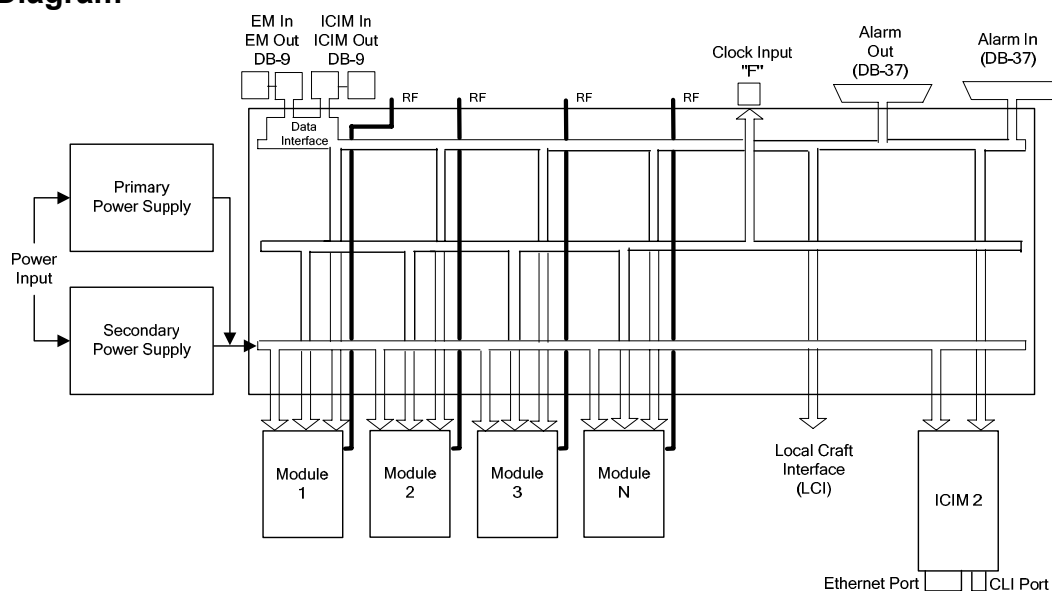
Front Access Chassis



Rear Access Chassis

Chassis

Block Diagram



Specifications

Electrical	Units	Notes
Connections		
ROSA/TNCS with ICIM2		Two DB-9 or one RJ-45
Local Alarm		Two DB-37 male (rear)
Auxiliary Power Input		One DB-50 female (rear)
Ground Stud (Rear)		10-32 thread (rear)
Power Consumption with fan tray	W DC	48
Bandwidth	MHz	5 - 1002

Environmental	Units	Notes
Temperature Range		
Full Specs and Operational	°C	-40 to +65
	°F	-40 to +149
Humidity Range	%	0 to 95
		3

Mechanical	Units	Rear Access	Front Access	Notes
Physical Dimensions				
Depth	in.	13.5	11.25	
	cm	34.3	28.6	
Width	in.	17.5	17.5	
	cm	44.4	44.4	
Height	in.	10.50	14.0	
	cm	26.7	35.6	
Weight	lb	19.0	20.0	
	kg	8.6	9.1	
Rack Units	RU	6	8	

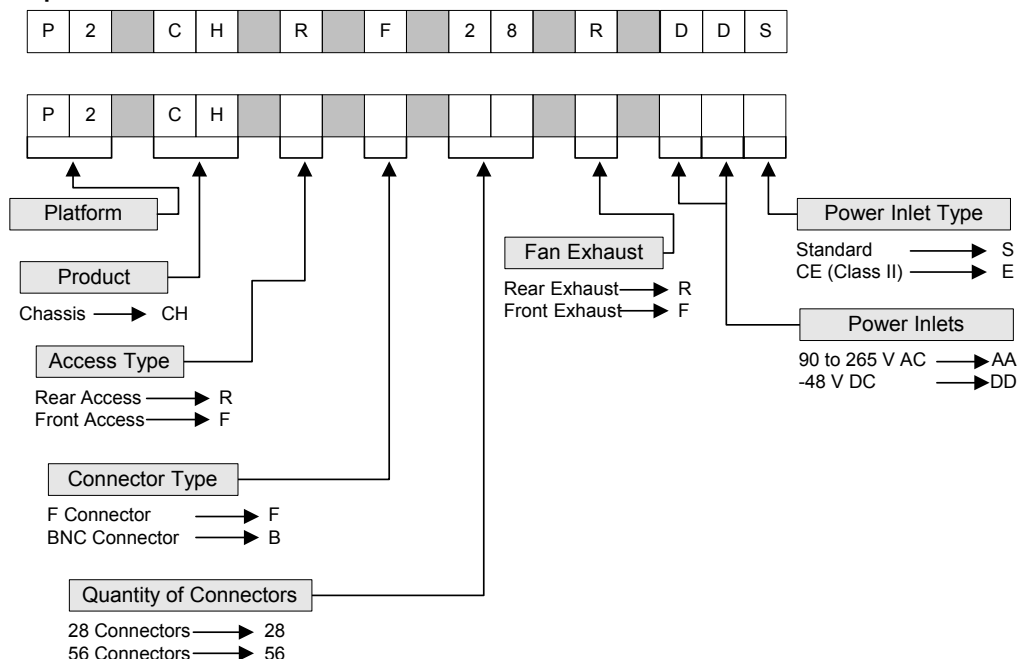
Notes:

- Air temperature measured at the air inlet of the Prisma II chassis.
- All unused slots in the Prisma II chassis need to be filled with a Module Blank.
- Recommended for use only in non-condensing environments.

Chassis

Ordering Information

Sample



Notes: Tinted plastic faceplate sold separately. Some configurations may not be available – contact the Applications Engineering group for more information.

Ordering Information Notes

Item	Options	Notes
Access Type	- Rear Access - Front Access	- Standard configuration. This selection provides the 6 RU chassis with all connectors on the rear. - Optional configuration. This selection provides the 8 RU chassis with all connectors on the front. Consider this option for back-to-back or Remote Terminal (RT) installations.
Connector Type	- F Connector - BNC Connector	- Standard configuration. - Optional configuration.
Quantity of Connectors	28 Connectors 56 Connectors	- Standard. This selection provides 2 coaxial connectors per single slot. - Optional. This selection provides 4 coaxial connectors per single slot. Select this option if 4:1 bdr™ Digital Reverse System products will be installed in the chassis.
Fan Exhaust (chassis order code includes fan tray)	- Rear Exhaust - Front Exhaust	- Standard configuration. - Optional configuration. Available for back-to-back chassis installations.
Power Inlets	90 – 265 V AC -48 V DC	- Universal 90 to 265 V AC powering. -48 V DC powering.
Power Inlet Type	- Standard - CE (Class II)	- Select standard for all -48 V DC installations. - Standard selection with AC powering provides a 3-prong, Class I AC receptacle suitable for all non-CE requirements. - CE selection with AC powering provides a 2-prong, Class II AC receptacle suitable for all CE requirements. - DO NOT select CE for -48V DC powering.

Chassis

Ordering Information, continued

Optional Spare Equipment and Tools	Part Number
Module Blank (pk. 6)	716307
Power Supply Blank (pk. 6)	716308
Serial Extension Cable, DB-9 Male to DB-9 Female, 6 ft (1 ea)	180143
TNCS, Cable Kit, Prisma II (1 kit)	738686
Tool, RF Connector Removal, Backplane / Module (1 ea)	741425
Tool, F Connector (security shield) (1 ea)	744313
Test Point Adapter, Long Reach (1 ea)	562580
Fan Tray, Rear Exhaust (1 ea) <i>(Note: chassis order code includes fan tray)</i>	741419
Fan Tray, Front Exhaust (1 ea) <i>(Note: chassis order code includes fan tray)</i>	741420
Fans Only (5 ea)	741421
Power Inlet, Front Access, AC, Standard (1 ea)	744432
Power Inlet, Front Access, DC, Standard (1 ea)	744430
Power Inlet, Front Access, AC, CE (1 ea)	744431
Power Inlet, Rear Access, AC, Standard (1 ea)	741422
Power Inlet, Rear Access, DC, Standard (1 ea)	741424
Power Inlet, Rear Access, AC, CE (1 ea)	741423
Power Connector, -48 V DC (12 ea)	741982
RF Connectors, F, Front or Rear Access, (28 ea)	741429
RF Connectors, BNC, Front or Rear Access, (28 ea)	741428
Mounting Ears, Black (3 pair)	741602
Mounting Ears, Green (3 pair)	741603
Fiber Storage, Rack Mount, 1 RU	739138
Tinted plastic faceplate, P2-CH	4008670
Host Module, P2-HM	4008281
AC Power Cord, 2 meter, standard	3989838
AC Power Cord, 2 meter, EU, 2 conductor	3993135

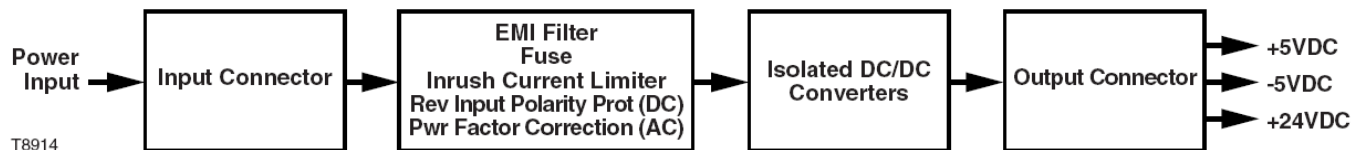
Power Supply System

Features

- Universal AC (90-265 V AC) and -48 V DC power options
- Designed to be used in fully-redundant configuration
- Uninterruptible transfer to single supply in the event that one power supply module fails
- Modular, front access design and hot-swap capability allow for quick and easy replacement in the event of failure
- Universal AC voltage input (automatically adjusts to voltage input, for AC supply only)
- Power factor correction



Power Supply System



Power Supply System

Specifications

Electrical	Units	AC	-48 V DC	Notes
Voltage Requirements	V	90 to 265, 50/60 Hz	-40 to -75	1
Power Consumption	A	4.7 full load	9.8 full load	
Output Voltage/Current	V DC/A	+24/10.0	+24/10.0	
	V DC/A	+5/40.0	+5/40.0	
	V DC/A	-5/3.0	-5/3.0	
Efficiency (maximum)	%	≥ 68	≥ 68	
Line Regulation	%	≥ 0.5	≥ 0.5	
Load Regulation	%	± 1.5	± 1.5	
Power Stability	%	± 0.5 over temperature range	± 0.5 over temperature range	
Redundancy Switch Time	ms	0	0	4

Environmental	Units	AC	-48 V DC	Notes
Temperature Range				2
Full Specs and Operational	°C	-40 to +65	-40 to +65	
	°F	-40 to +149	-40 to +149	
Humidity Range	%	0 to 95	0 to 95	3

Mechanical	Units		Notes
Physical Dimensions			
Depth	in.	9.2	
	cm	23.4	
Width	in.	2.1	
	cm	5.3	
Height	in.	6.4	
	cm	16.3	
Weight	lb	6.0	
	kg	2.7	
Module Width	slots	2	

Notes:

1. AC power cords provided with AC chassis.
2. Air temperature measured at the air inlet of the Prisma II chassis.
3. Recommended for use only in non-condensing environments.
4. To maximize system reliability, power supplies showing the CE silkscreen on the lower front of the module (earlier generation) should only be paired with similarly labeled modules within a chassis, due to their particular load sharing methods. When replacing these earlier generation CE power supplies in a chassis with later generation modules, it is recommended to replace both modules at the same time.

Ordering Information

Description	Part Number
AC power supply, CE, 90-265 V AC, P2-PS-M-A-E	734908
DC power supply, CE, -48 V DC, P2-PS-M-D-E	734909
AC power supply, World Wide, 90-265 V AC, P2-PS-M-A-S-W	4012765.001.000.AB
DC power supply, World Wide, -48 V DC, P2-PS-M-D-W	716312.001.000.BA

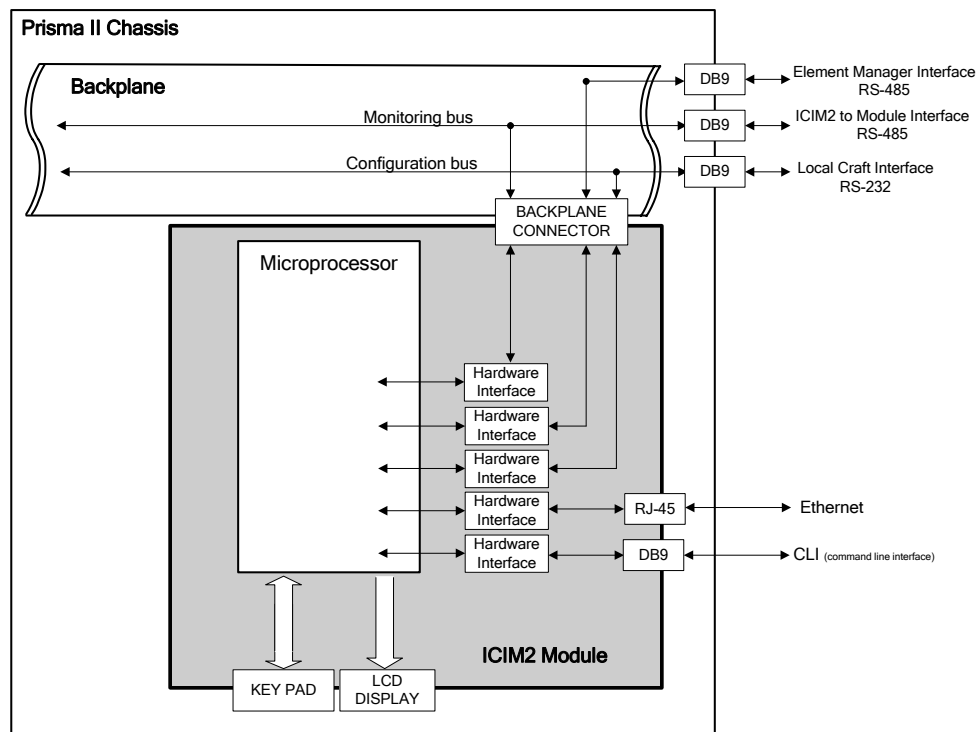
Intelligent Communications Interface Module 2 (ICIM2)

Features

- Functions as the interface between the Prisma II modules and the ROSA/Transmission Networks Control Systems (TNCS) communications bus
- Supports Web Browser and Command Line Interface (CLI) for local and remote management
- Provides early warning of systems faults
- Blind-mate (push-on) connectors for power and data provide complete front access for simplified installation and maintenance
- Allows local module configuration and status monitoring for up to 64 modules located in multiple chassis including:
 - Prisma II Chassis
 - Prisma II High Density Chassis
 - Prisma II XD Chassis
 - Prisma® HDRx Chassis
- SNMP Ethernet interface
- LCD display and keypad
- ROSA/TNCS compatible
 - Remote control and monitoring of individual modules
- SNMP compatible
- Firmware can be upgraded by remote download



ICIM2



Intelligent Communications Interface Module 2 (ICIM 2)

Specifications

Electrical	Units		Notes
Connections		RJ-45 (Ethernet) DB-9 (CLI)	
Power Consumption			
Nominal Operation	W DC	0.3	
Heater ON Operation	W DC	13.0	
Polling Speed	Kb	38.4	

Environmental	Units		Notes
Temperature Range			1
Full Specs and Operational	°C °F	-40 to +65 -40 to +149	
Humidity Range	%	0 to 95	2

Mechanical	Units		Notes
Physical Dimensions			
Depth	in. cm	9.8 24.9	
Width	in. cm	2.1 5.3	
Height	in. cm	7.6 19.3	
Weight	lb kg	2.0 0.9	
Module Width	slot	2	

Notes:

1. Air temperature measured at the air inlet of the Prisma II chassis.
2. Recommended for use only in non-condensing environments.

Ordering Information

Description	Part Number
ICIM2, Prisma II, (P2-ICIM2-MSO)	4025187*

* For HMS MIBS support, customer should order ICIM part number 4002258.

Module Blanks

Description

The Prisma II platform is a high-density platform designed for a broad operating temperature range. This feature allows for field deployment without facility environment controls. The thermal integrity of the platform and air circulation around the modules are critical. All unused module slots in a Prisma II chassis must be filled with a Module Blank.

Features

- One module slot wide
- Two types of blanks available
 - Power supply blank (slots 1 and 3)
 - Standard blank for all other slots
- Blanks required in all unused slots of chassis to maintain proper cooling for all other modules

Note: Slots 1 and 3 of the Prisma II chassis are dedicated to power supplies. These two slots require the "Power Supply Blank." All other slots use the "Module Blank."



Module Blank

Ordering Information

Description	Part Number
Module Blank (pk. 6)	716307
Power Supply Blank (pk. 6)	716308