

Cisco Prisma II Platform

In optical transmission systems, the network platform forms the foundation of the product family. The Cisco® 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 Cisco'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

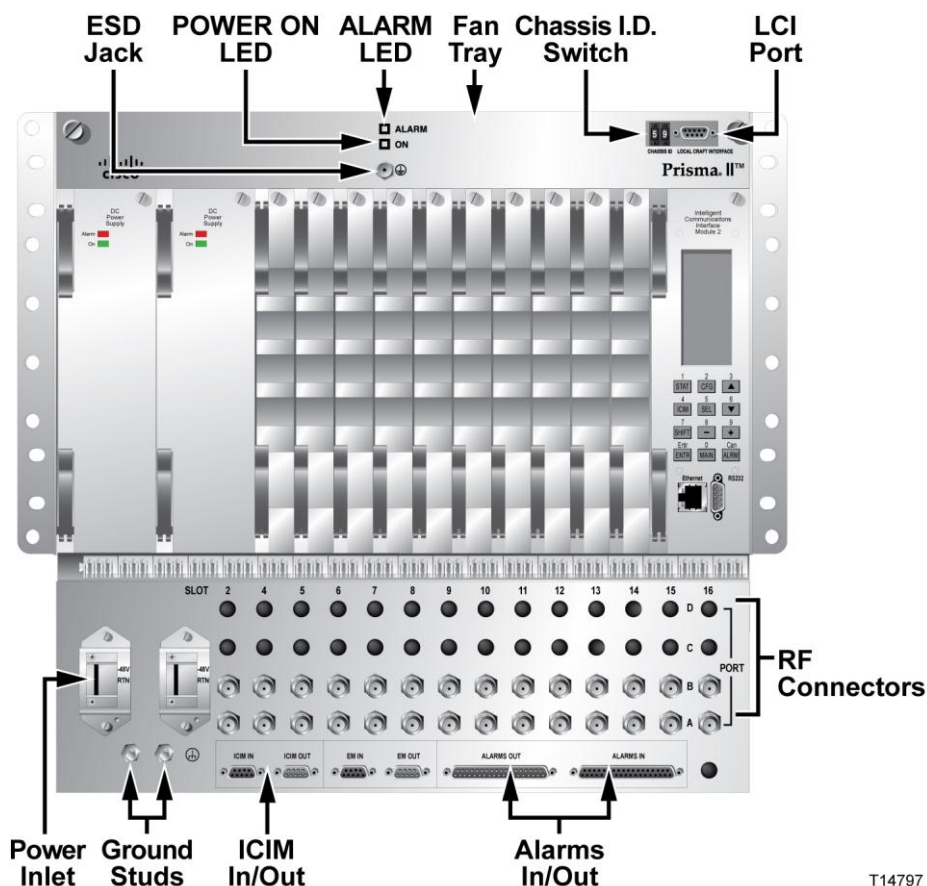


ICIM 2



Manage your network with ROSA and TNCS open standards element management. Get faster mean-time-to-repair, increased uptime, and management that evolves as you provision your networks. US toll-free 1-800-722-2009. EMEA +32 56 445 445. www.scientificatlanta.com/ROSA

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 and 16.
(Note: An ICIM or ICIM 2 is not required in every chassis.)
- Blanks are required in all unused slots of the 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



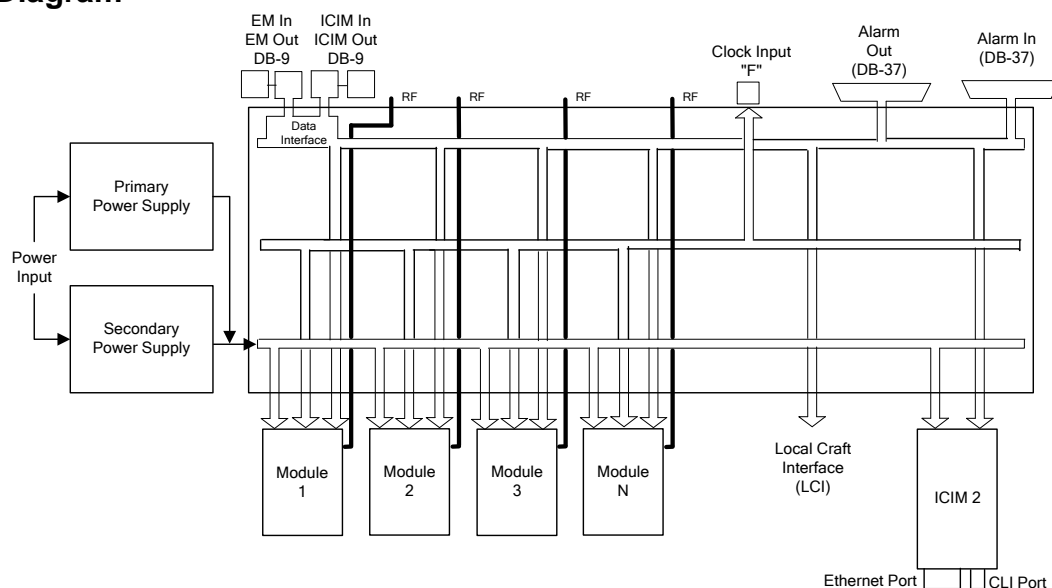
Front Access Chassis



Rear Access Chassis

Chassis

Block Diagram



Specifications

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

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

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

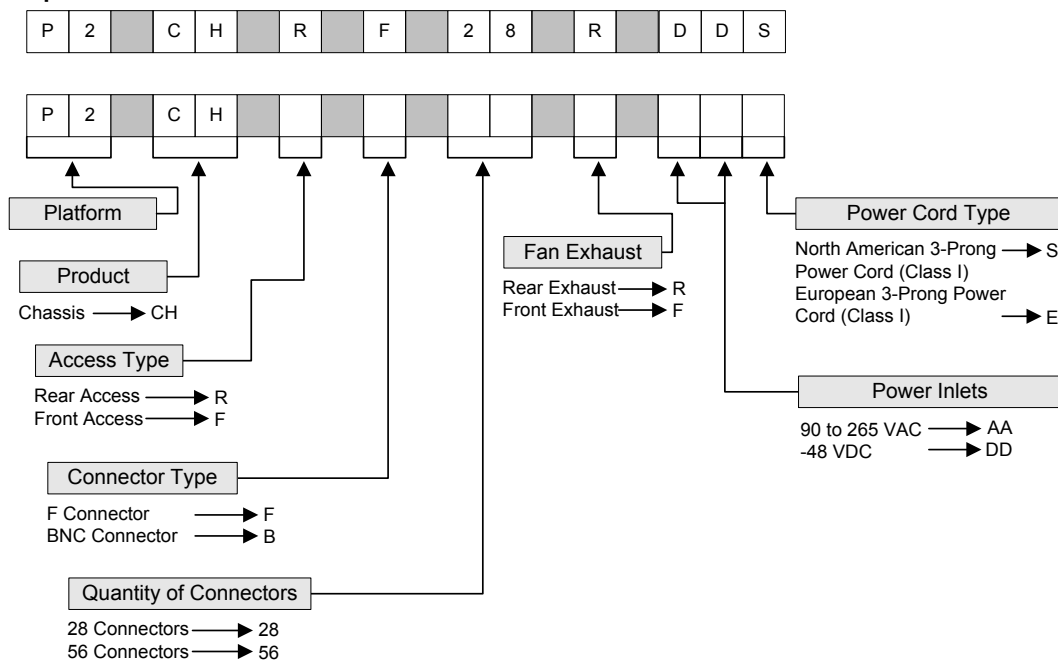
Notes:

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

Chassis

Ordering Information

Sample



Note: 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 | <ul style="list-style-type: none"> Rear Access Front Access | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> F Connector BNC Connector | <ul style="list-style-type: none"> Standard configuration. Optional configuration. |
| Quantity of Connectors | <ul style="list-style-type: none"> 28 Connectors 56 Connectors | <ul style="list-style-type: none"> 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 <i>(chassis order code includes fan tray)</i> | <ul style="list-style-type: none"> Rear Exhaust Front Exhaust | <ul style="list-style-type: none"> Standard configuration. Optional configuration. Available for back-to-back chassis installations. |
| Power Inlets | <ul style="list-style-type: none"> 90 – 265 VAC -48 VDC | <ul style="list-style-type: none"> Universal 90 to 265 VAC powering. -48 VDC powering. |
| Power Cord Type | <ul style="list-style-type: none"> North American Power Cord European Power Cord | <ul style="list-style-type: none"> Select North American Power Cord for all -48 VDC installations. Standard selection with AC powering provides a 3-prong, Class I AC power cord suitable for North American compatible power receptacles. European selection with AC powering provides a 3-prong, Class I AC power cord suitable for standard European compatible power receptacles. DO NOT select European Power Cord for -48 VDC powering. |

Chassis

Ordering Information, continued

| Chassis (See Ordering Matrix on page 5 for Code) | Part Number |
|--------------------------------------------------|-------------|
| P2-CH-F-F-28-R-AAE | 736735 |
| P2-CH-F-F-28-F-AAE | 736741 |
| P2-CH-F-F-56-R-AAE | 736748 |
| P2-CH-F-F-56-F-AAE | 736747 |
| P2-CH-R-F-28-R-AAE | 736727 |
| P2-CH-R-F-56-R-AAE | 736761 |
| P2-CH-R-F-28-R-DDS | 736732 |
| P2-CH-R-F-55-R-DDS | 736766 |
| P2-CH-F-F-28-R-DDS | 736740 |
| P2-CH-F-F-28-F-DDS | 736743 |
| P2-CH-F-F-56-F-DDS | 736744 |
| P2-CH-F-F-56-R-DDS | 736750 |
| P2-CH-F-F-28-R-AAS | 736736 |
| P2-CH-F-F-28-F-AAS | 736737 |
| P2-CH-F-F-56-R-AAS | 736746 |
| P2-CH-F-F-56-F-AAS | 736748 |
| P2-CH-R-F-28-R-AAS | 736728 |
| P2-CH-R-F-56-R-AAS | 736762 |

| 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, Rear Access, AC, Standard (1 ea) | 741422 |
| Power Inlet, Rear Access, DC, Standard (1 ea) | 741424 |
| Power Connector, -48 VDC (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, North American 3-conductor (Class I) | 3989838 |
| AC Power Cord, 2.5 meter, European 3-conductor (Class I) | 700788 |

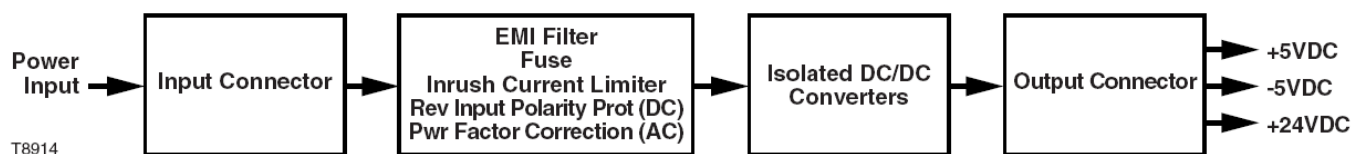
Power Supply System

Features

- Universal AC (90-265 VAC) and -48 VDC 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 VDC | 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 | VDC / A | +24 / 10.0 | +24 / 10.0 | |
| | VDC / A | +5 / 40.0 | +5 / 40.0 | |
| | VDC / A | -5 / 3.0 | -5 / 3.0 | |
| Efficiency (minimum) | % | ≥ 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 VDC | 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, we recommend replacing both modules at the same time.

Ordering Information

| Description | Part Number |
|--------------------------------------------------------|--------------------|
| AC power supply, World Wide, 90-265 VAC, P2-PS-M-A-S-W | 4012765.001.000.AB |
| DC power supply, World Wide, -48 VDC, P2-PS-M-D-W | 716312.001.000.BB |

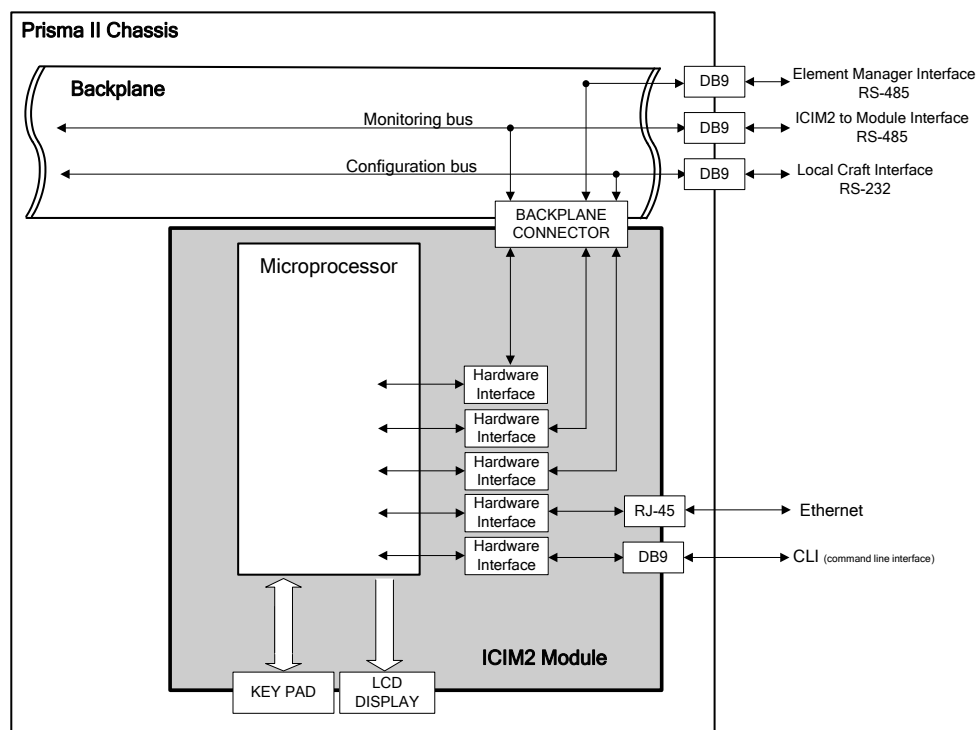
Intelligent Communications Interface Module 2 (ICIM2)

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 150 modules¹ or 10 chassis, whichever comes first, 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



Note:

1. The polling rate is approximately 1 second per module. Assign the number of modules per ICIM2 accordingly.

Intelligent Communications Interface Module 2 (ICIM2)

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 | -40 to +65 | |
| | °F | -40 to +149 | |
| Humidity Range | % | 0 to 95 | 2 |

| Mechanical | Units | | Notes |
|---------------------|-------|------|-------|
| Physical Dimensions | | | |
| Depth | in. | 9.8 | |
| | cm | 24.9 | |
| Width | in. | 2.1 | |
| | cm | 5.3 | |
| Height | in. | 7.6 | |
| | cm | 19.3 | |
| Weight | lb | 2.0 | |
| | kg | 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 |
| ICIM OUT Terminator, DB9 Female (Spare) | 4013014 |
| ICIM IN Terminator, DB9 Male (required for redundancy with the HD Rx) | 4031282 |

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 are required in all unused slots of the 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 |



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