

Optoelectronics

Prisma® HDRx Reverse Optical Receiver Platform and Power Supply System

Description

The Prisma® HDRx Reverse Optical Receiver Platform meets the challenges of today's large-scale return path deployments. The high-density, low-cost platform features 42 modular optical receivers housed in a 4U-high chassis. Compatible with 1310 nm and 1550 nm wavelengths, the HDRx Platform is a flexible solution for 5 to 65 MHz return path applications. Its fiber-friendly design makes it well-suited for deployment directly into fiber management frames.



Chassis with modular power supply

The HDRx power supplies are designed to supply power to one or two HDRx rack units and utilize two different types of power supply systems:

- The first system consists of a modular primary power supply that can be mounted in the HDRx chassis, and a separate stand-alone 1RU redundant power supply that can support up to two HDRx chassis. The DC versions of both of these power supplies are CE compliant.
- The second system is a stand-alone, CE compliant, 2RU rack chassis power supply system that includes the fan tray. Both primary and redundant power supplies can be mounted in the same chassis.



Modular power supply

Features

- 42 receivers in a 4U-high chassis
- Front panel optical connectors provide easy installation and maintenance
- Blind-mate RF connections allow easy module exchange from the front of the rack
- RF level set with front-panel plug-in pads for high reliability
- RF test point located on the front of each receiver module
- Optical status LEDs and test points located on the front panel of the network control module
- Primary and secondary receivers can be set up for optical path redundancy
- Universal AC (90-265 V AC) and DC (-48 V DC) power options
- Designed to be used in fully-redundant configurations
- Uninterruptible load transfer in the event of primary power supply failure
- Hot swappable power supply units for quick and easy installation and replacement
- Element management & monitoring

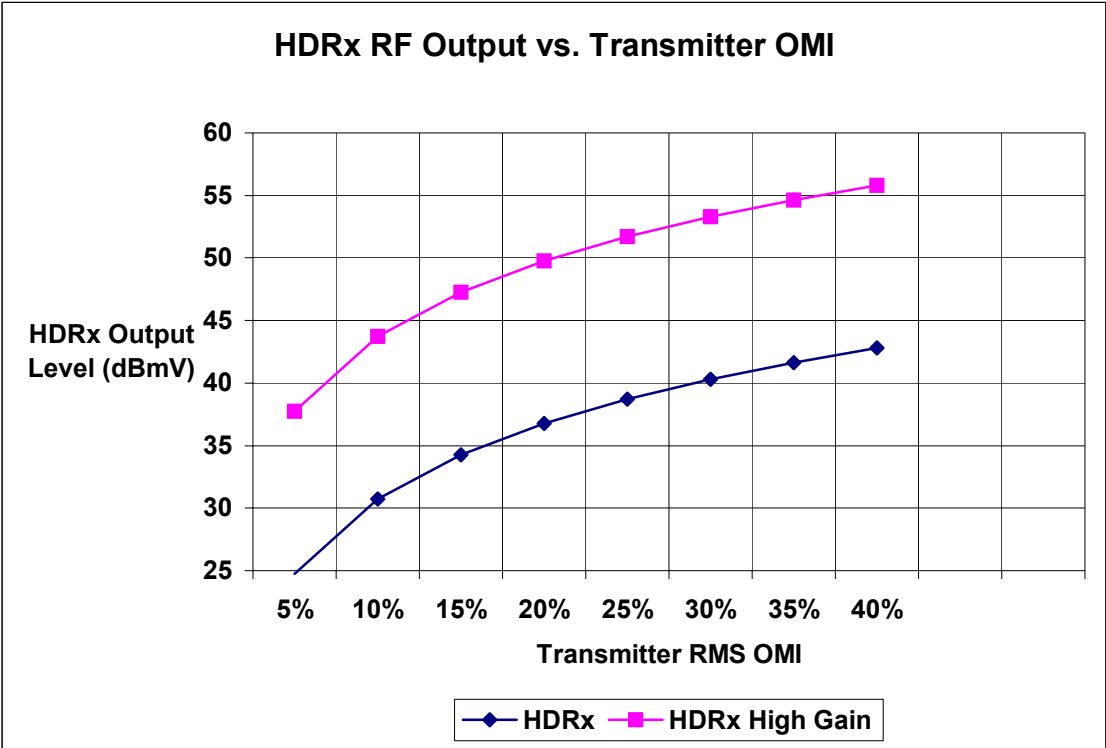


1 RU Redundant power supply

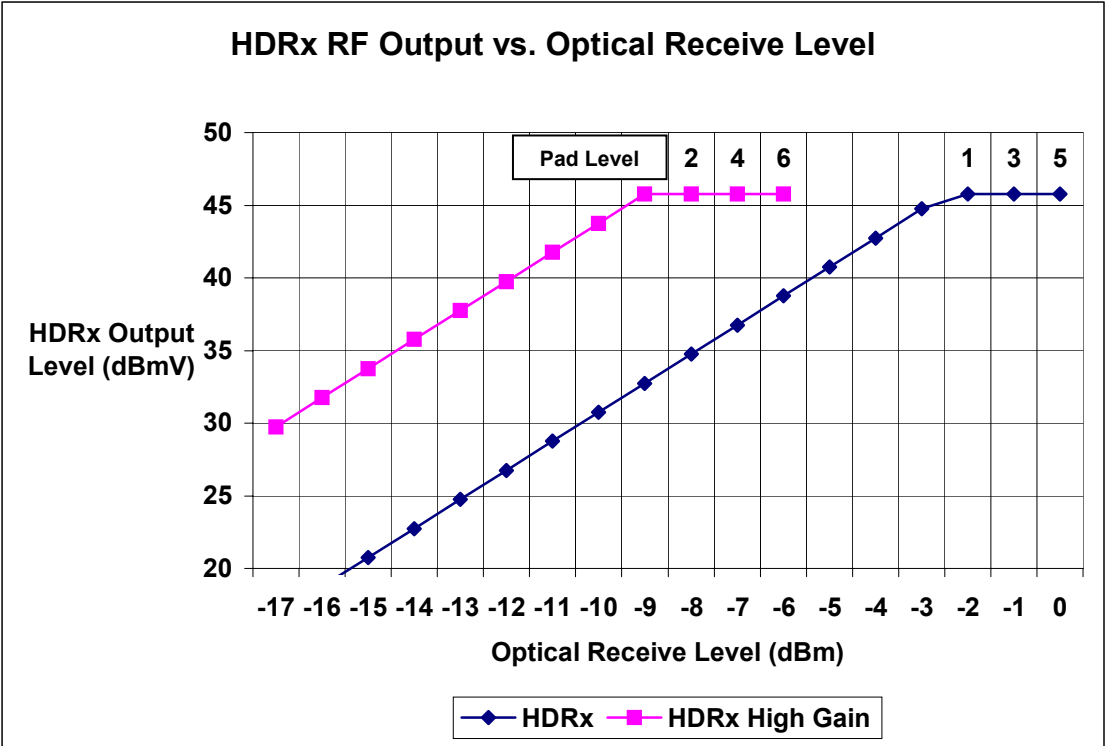


2 RU power supply system

Receiver Specifications



Note:
Optical receive level -10 dBm



Notes:
Transmitter RMS OMI 10%
Pad value to keep RF output level below recommended maximum
Maximum recommended RF level changes $20 \cdot \log(\text{omi}\% / 10\%)$

Receiver Specifications, continued

Optical	Units		Notes
Wavelength	nm	1250 to 1600	
Optical Input Range:			
• HDRx	dBm	0 to -18	
• HDRx High Gain	dBm	-6 to -18	
Optical Input Connector		SC/APC	
Optical Test Point	V/mW	1 ± 10%, located on network control module	
Optical Status		Red LED fail indicator located on network control module	
RF			
Bandwidth	MHz	5 to 65	
RF Output Level		See charts on page 2	
Output Level Adjustment		Front panel plug in pad (0 to 20 dB in 0.5 dB steps)	
Output Port		75 ohm F-connector on rear panel of chassis	
Return Loss	dB	> 16	
Flatness	dB	± 0.75 over frequency range	
RF test point		-20 dBc F-connector	
Unit-to-Unit Isolation	dB	> 65	
Redundancy – primary to secondary switch time	ms	< 50	
Mechanical			
Operating Temperature	°F °C	+32 to +122 0 to +50	
Physical dimensions of chassis	in. cm	7.0 H x 19.0 W x 10.5 D 17.8 H x 48.3 W x 26.7 D	
Weight	lb kg	11.2 5.1	

Power Supply Specifications

Modular Primary & 1RU Redundant Power Supplies

Primary Power Supply (in chassis)	Units	AC	DC	Notes
Power Requirement	V	85 to 264 (50/60 Hz)	-48	2
Power Consumption, fully loaded	W	120		
Redundant Power Supply (1 RU stand-alone)		AC	DC	
Power Requirement	V	90 to 264 (50/60 Hz)	-36 to -72	2
Power Consumption, fully loaded	W	220 max.		
Physical Dimensions (excluding mounting brackets)	in. cm	1.7 H x 17.0 W x 10.0 D 4.3 H x 43.2 W x 25.4 D		1

Note:

1. Mounting brackets fit standard 19-inch and 23-inch racks.
2. Both DC versions of this power supply are CE compliant.

Power Supply Specifications, continued

2RU Power Supply

General Performance	Units	AC	-48 V DC	Notes
Input voltage requirements	V	90 to 265 (50/60 Hz)	-40 to -75	1
Output voltage/current	V DC/A	+8 / 25	+8 / 25	
Power consumption (fan tray #744332)	W	Typ. 35, max 72		
Efficiency (minimum)	%	> 68	> 68	
Line regulation	%	≥ 0.5	≥ 0.5	
Redundancy switch time	ms	0	0	
Environmental				
Operating temperature range	°F °C	-40 to +149 -40 to +65		2
Humidity range	%	0 to 95		3
Mechanical				
Physical dimensions, total chassis	in. cm	17.2 W x 3.7 H x 9.8 D 43.7 W x 9.4 H x 24.9 D		
Physical dimensions, one supply	in. cm	8.5 W x 1.65 H x 8.5 D 21.6 W x 4.2 H x 21.6 D		
Weight	lb kg	6.0 2.7		

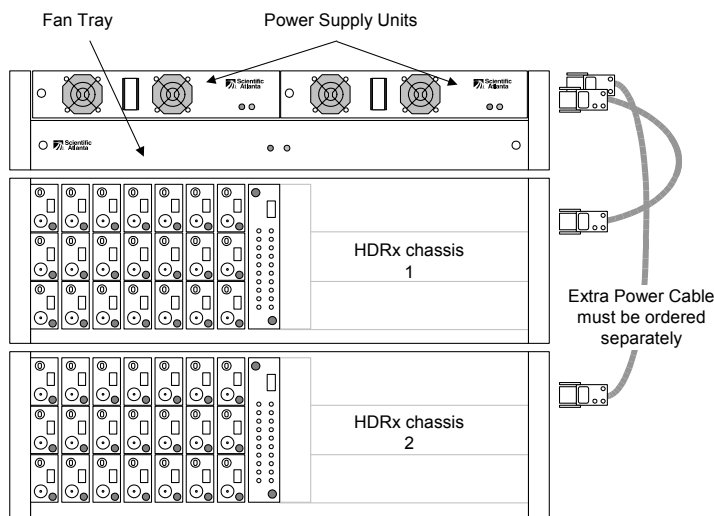
Notes:

1. One power supply unit including 6 ft. (1.8 m) AC power cord with AC unit
2. Air temperature measured at the air inlet of the chassis
3. Recommended for use only in non-condensing environments

2RU Power Supply Application

Only one (1) power supply unit is needed to power up to two HDRx rack units. To provide redundant operation two (2) power supply units are needed. The power cables are connected on the rear of the chassis. One cable is included with the chassis. An extra cable must be ordered separately. See ordering information.

Same or different power sources may be applied. One of the power supplies may be an AC powered unit and the other power supply may be a DC powered unit. In the event of AC power failure the DC powered unit will then act as backup.



Ordering Information

Receiver Ordering Information

Model	Part Number
Prisma HDRx Reverse Optical Receiver Module, SC/APC connector	731512
Prisma HDRx High Gain Reverse Optical Receiver Module, SC/APC connector	731513
Related Equipment	
Prisma HDRx Chassis	731508
Prisma HDRx Network Control Module	731511
Prisma HDRx Interconnect Power Cable, 0.5 meter	734451

Power Supply Ordering Information

Modular Primary Power Supplies	Part Number
HDRx Power Supply Module, 110/220 V AC (<i>fits into HDRx chassis</i>) (<i>non-CE compliant</i>)	731509
HDRx Power Supply Module, -48 V DC (<i>fits into HDRx chassis</i>) (<i>CE compliant</i>)	731510
1RU Redundant Power Options -Select one of the following	
HDRx Fan/Power Supply, 110/220 V AC, 1 RU (<i>stand-alone unit</i>) (<i>non-CE compliant</i>)	734450
HDRx Fan/Power Supply, -48 V DC, 1 RU (<i>stand-alone unit</i>) (<i>CE compliant</i>)	735481

2RU Primary Power Supplies	Part Number
HDRx Power Supply Module, 110/220 V AC (<i>fits into 2 RU chassis</i>) (<i>CE compliant</i>)	744328
HDRx Power Supply Module, -48 V DC (<i>fits into 2 RU chassis</i>) (<i>CE compliant</i>)	747713
HDRx Power Supply System Chassis, 2 RU, including Fan Tray*	744331
Redundant Power Options -Select one of the following	
HDRx Power Supply Module, 110/220 V AC (<i>fits into 2 RU chassis</i>) (<i>CE compliant</i>)	744328
HDRx Power Supply Module, -48 V DC, 2 RU (<i>fits into 2 RU chassis</i>) (<i>CE compliant</i>)	747713

* Must have for 2RU power supply system



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