ISCO INTERNATIONAL

LTE 4G • C-RAN • Network Function Virtualization • SINR Optimization • PIM Cancellation • Interference Mitigation • Spectrum Visibility • 5G

Proteus® CPRI

RF Conditioning Platform

ProteusCPRI™ Compact

ProteusCPRI™ Compact is an x86 server which delivers ISCO's RF conditioning network functions integrated on the CPRI link in a small, powerful hardware platform that can withstand the high temperatures found in outdoor cabinets. Designed to be installed in enclosed cabinets or against a wall, all interfaces are easily accessible from the front of the unit. ProteusCPRI Compact integrates in the wireless network at the baseband level supporting network functions to remove interference and PIM and improve wireless capacity. As tower top radios and centralized RAN (C-RAN) deployments separate the radio electronics from the baseband processing, ProteusCPRI™ Compact ensures the benefits of RF conditioning are supported in the next generation of your network even in locations where space is limited.

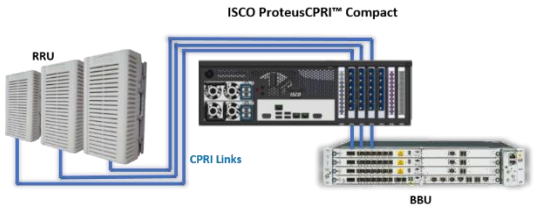
ProteusCPRI™ Compact Features:

- Up to 6 CPRI fiber pairs at 65°C in a 3U compact platform to cover multiple bands in a cabinet or space-limited 3-sector site, DAS or C-RAN hub (up to 9 pairs at 55°C and 12 pairs at 45°C)
- Support for 2x2 and 4x4 MIMO
- Up to 20 MHz carriers in any frequency band
- Support CPRI rates 1-8
- All interfaces located on the front of the unit
- Carrier-grade platform; high reliability redundancy and -48 VDC operation
- Data analytics capabilities for use with ISCO's Spectrum Monitor and SpectrumInsight ProTools™ analysis tools
- IP connection to integrate with SON and management systems
- Remote access enables manageability and spectral visibility even when the user is away from the cell site
- Works with major OEM CPRI interfaces
- Supports popular ISCO network functions: c-ONE PIM Canceler®, Link Conditioning®, Dynamic Spectrum Recovery and Spectrum Monitor

ProteusCPRI™ Compact Benefits:

- Allows spectral efficiency improvements from interference and intermod cancellation to be realized in space-constrained network sites
  Compact 3U height and short 12" rack depth with front-facing interfaces perfect for cabinets and hard-to-fit spaces
- Eliminates concerns about equipment performance and stability
  Hardened equipment features extended temperature range, front-to-back airflow and redundant power
- Transparently integrates on the CPRI interface
  Seamlessly passes CPRI control data unchanged; RF conditioning only modifies baseband IQ RF data
- Establishes visibility into RF performance in CPRI configurations
  Get a view into spectral conditions from anywhere without the need for a site visit

ProteusCPRI™ Compact
Integration Diagram



ProteusCPRI™ Compact improves network capacity, performance and visibility using space-saving, hardened equipment integrated on the CPRI link

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We Care About The Connection™

Proteus® CPRI

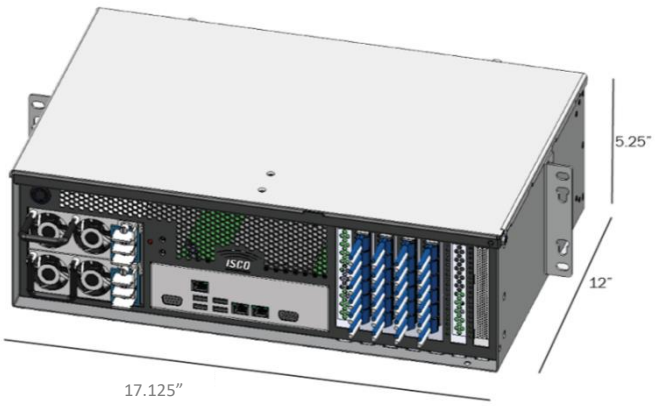
RF Conditioning Platform

Technical Information and Specifications

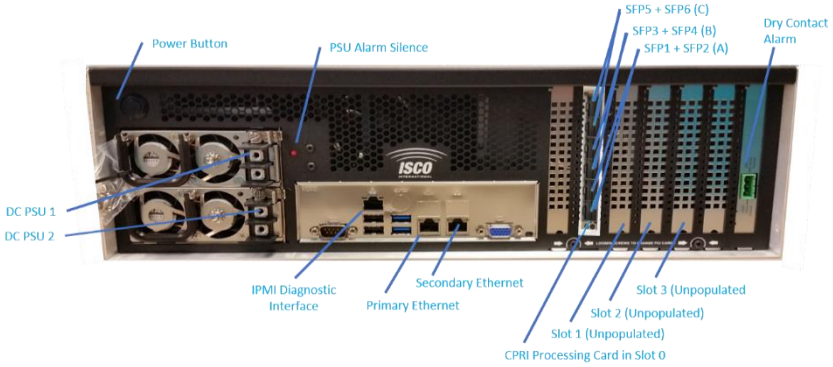
ProteusCPRI™ Compact

RF Performance, RX Band	
Adaptation Time	< 1 ms (typical)
Bandwidth	Up to 4 x 20MHz Antenna Carriers per CPRI link
AIM Interference Rejection	> 40 dB (CW), > 20 dB (typical)
Environmental	
Operating Temperature Range, Rev A or later (varies with number of CPRI processing cards)	0° to + 65° C / 32° to 149° F (1 or 2 cards) 0° to + 55° C / 32° to 131° F (3 cards) 0° to + 45° C / 32° to 113° F (4 cards)
Relative Humidity	5-95% RH (non-condensing)
Mechanical	
Dimensions, 3U (without side brackets)	431(W) x 305(D) x 133(H) mm (17.125" x 12" x 5.25")
Weight	17.6 lbs.
Optical Connectors	Six SFP network ports per CPRI Interface Card supporting a variety of SFPs and interface cables to match specific equipment and integrations
Mounting Options	2-post rack mount, front or mid mounting brackets
Electrical	
Supply Voltage	-48 VDC (-36 VDC to -72 VDC)
Power Consumption	5 A typical, 10 A maximum @ -48V
Interfaces	Ethernet, Dry Contact Alarm
Miscellaneous	
OEM Protocols Supported	Nokia, ALU, Ericsson, Samsung
Each CPRI Interface Card can be independently programmed to support any band	

ProteusCPRI™ Compact Mechanical Drawing



ProteusCPRI™ Compact Front System Interfaces



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All specifications are preliminary and subject to change without notice. Please contact ISCO International for complete performance data.