Digital Transport

Prisma IP™ Optical Switch Card

Optical Switch Card for Diverse Route Network Protection

Scientific-Atlanta's Prisma IP™ Optical Switch Card is one of many new building blocks for the Prisma IP Platform. The Optical Switch Card is a protocol independent, wideband optical switch that can enable a network to perform high speed (12ms) protection switching in diverse route supplied optical network nodes.

The Optical Switch Card has two optical inputs and one common optical output. Each of the optical inputs is monitored for presence and power level of optical carriers on its inputs. Switchover from one optical input to the other is activated if the user-provisionable optical level threshold is passed. Front panel LEDs indicate input and switch status, as well as overall card status.

There are several switching algorithms that can be selected from that permit customizing the switching mode for your network application. The provisionable operating modes include Automatic switching with both revertive and non-revertive restoration, Forced (manual) switching, and Toggle switching modes.

Features and Benefits

- Create diverse route protection and ring protection switching networks
- Dual optical input power / threshold detectors
- Composite optical switching, 12ms typical
- Remote optical composite power monitoring of inputs
- Switching algorithm in firmware (not software) for faster response
- Eight different switching modes for maximum network flexibility
- Full remote manageability with the ROSA™ Element Management System

Prisma IP Optical Switch Card

Specifications

Network Specifications *	
Optical Connectors	Optical Input A Optical Input B Optical Output Type SC/UPC
Input Optical Power Range	-30 dBm minimum to +10 dBm maximum, composite
Optical Wavelengths	Dual Window Operation: • 1310 nm, ±20 nm • 1525 nm to 1610 nm CWDM outside this range is supported*
Optical Insertion Loss	< 1.5 dB (input to output)
Optical Isolation	Input to Input > 50 dB Unselected Input to Output >50 dB
Optical Return Loss	> 35 dB
Optical Switchover Threshold Setting	-30 dBm to +10 dBm
Optical Power Monitoring Accuracy	< ± 1.5 dB at 1550 nm (calibration point)
Optical Switch Default (power off) State	Input A Selected during no-power conditions
Switchover time	12 milliseconds typical
Provisionable Switchover Delay	0 to 255 milliseconds in 1 millisecond steps
Provisionable Wait-to-Restore Delay	0 to 32 seconds in 130 millisecond steps
Switching Modes Supported	Automatic Revert/Restore, Input A Priority Automatic Revert/Restore, Input B Priority Automatic Non-Revert/Restore, Input A Priority Automatic Non-Revert/Restore, Input B Priority Toggle Mode, Input A initial state Toggle Mode, Input B initial state Forced to Input A Forced to Input B
Card Status Indicators	Power, Fault, Active, Standby
Switch Status Indicators	Input A Status Input B Status Output Mode - A Selected Output Mode - B Selected
Management	
Management Interfaces	10/100Base-T (RJ-45) management port, IP protocol RS-232c craft port (DB9M)
Management Software	Local CLI access via RS-232 console Secure remote CLI access via Telnet Prisma IP Element Management System (EMS) ROSA Element Management System SNMP manageable – private MIBs available

*All optical specifications are valid for the 1550 and 1310 nm bands except where noted. The optical switch will function in CWDM applications, but optical specifications are not guaranteed or given for the CWDM band.

Specifications, continued

Physical Specifications	
Line card configuration/size	Single-wide card slot, front card only, Prisma IP chassis
Chassis compatibility	Prisma IP M-Series, C-Series, and Micro Node
Operating temperature	0°C to 50°C (+32°F to +122°F)
Storage temperature	-20°C to 70°C (-4°F to +158°F)
Relative humidity	5% to 85% (non condensing)
Electrical Specifications	
Power	10 W maximum
Regulatory Compliance	
Emissions	FCC Part 15B and CE EN55022 EN55024
Safety	CL/cUL 60950, EN 60950 (TUV)

Ordering Information

Description	Part Number
Prisma 2:1 Automatic Intelligent Optical Switch Card with SC/UPC connectors	4007646
Rear Blank Card, Single Slot *(must be ordered with each optical switch)*	754423

Ordering Note:
The Prisma IP Optical Switch is compatible with the complete Prisma IP Chassis family; M-Series, C-Series, and Micro-Node. Please see the data sheets for these products for more details.

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