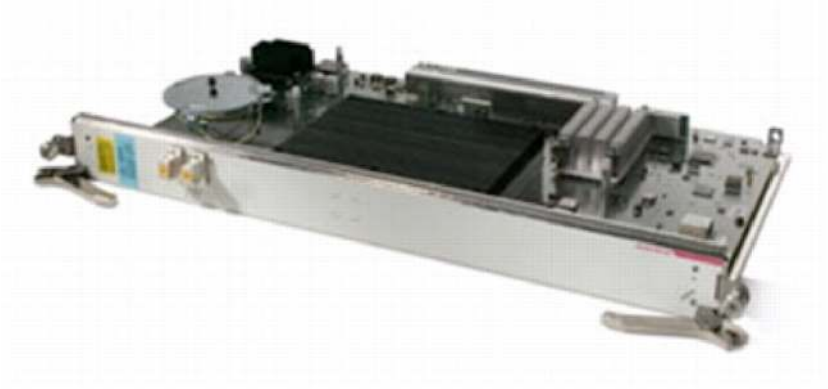
Cisco CRS Single-Port OC-768C/STM-256C POS Interface Module

The Cisco® CRS-1 Carrier Routing System is the industry's first carrier router offering continuous system operation, unprecedented service flexibility, and system longevity. The Cisco CRS-1 is powered by Cisco IOS® XR Software – a unique self-healing, distributed operating system designed for always-on operation while scaling system capacity up to 92 Tbps. The innovative system architecture combines the Cisco Silicon Packet Processor, the first programmable 40-Gbps application-specific integrated circuit (ASIC), with the Cisco Service Separation Architecture for unprecedented service flexibility and speed to service. The Cisco CRS-1 marks a new era in carrier IP Communications by powering the foundation for network and service convergence today while protecting investments for decades to come.

This data sheet provides detailed product specifications for the Cisco CRS-1 1-Port OC-768c/STM-256c POS Interface Module. For more information about the Cisco CRS-1 or about other interfaces available for the Cisco CRS-1, visit: http://www.cisco.com/go/crs



Product Specifications

Table 1. Product Specifications

Feature	Description
Chassis Compatibility	Compatible with all current Cisco CRS-1 and CRS-3 line-card chassis
Software Compatibility	Cisco IOS® XR Software Release 3.0 or higher for CRS-1 Cisco IOS XR Software Release 4.0.0 or later for CRS-3
Protocols	• Packet over Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) • RFC 1619/2615, Point-to-Point Protocol (PPP) over SONET/SDH • RFC 1662, PPP in High-Level Data Link Control (HDLC)-like framing • RFC 2615, PPP over SONET/SDH • HDLC
Port Density	• One 1-port OC-768c/STM-256c POS interface per physical layer interface module (PLIM)

Feature	Description
Layer1/Layer 2 Feature Summary	• Supports a maximum transmission unit (MTU) of up to 9188 bytes • Layer 2 encapsulations: HDLC, PPP; no subinterface support • Error counts for B1, B2, B3 • Threshold-crossing alerts (TCAs), far end block error path (FEBE) for B1, B2, and B3 with threshold that can be set • Loss of signal (LOS), loss of frame (LOF), line alarm indicator signal (LAIS), path alarm indicator signal (PAIS), loss of pointer (LOP), line remote defect indicator (LRDI), path remote defect indicator (PRDI), signal failure (SF), signal degrade (SD), line remote error indicator (line FEBE), and path remote error indicator (path FEBE) • Performance monitoring – Error counts for B1, B2, B3, TCAs, and FEBE for B1, B2, or B3 with threshold that can be set • Local (internal) or loop-timed (recovered from network) • Stratum 3 clock accuracy over full operating temperature • Pointer activity monitoring • Local (diagnostic) and line (network) loopback • 1 + X^43 self-synchronous scrambler • Power and input current monitoring
Reliability and Availability	Online insertion and removal (OIR) without affecting system traffic
Network Management	• Cisco IOS XR Software command-line interface (CLI) • Simple Network Management Protocol (SNMP) • Extensible Markup Language (XML) interface • CraftWorks Interface (CWI)
Physical Dimensions	• Occupies one PLIM slot • Weight: 8.6 lbs (3.9 kg) • Height: 20.6 in. (52.32 cm) • Depth: 11.2 in. (28.4 cm) • Width: 1.8 in. (4.57 cm)
Power	150W
Environmental Conditions	• Storage Temperature: -40°C to 70°C (-40°F to 158°F) • Operating Temperature: ◦ Normal: 5°C to 40°C (41°F to 104°F) ◦ Short term: -5°C to 50°C (23°F to 122°F) short term • Relative Humidity: ◦ Normal: 5% to 85% ◦ Short-term: 5% to 90% but not to exceed 0.024 kg water/kg of dry air Short-term refers to a period of not more than 96 consecutive hours and a total of not more than 15 days in 1 year. (This refers to a total of 360 hours in any given year, but, no more than 15 occurrences during that 1 year period.)

Approvals and Compliance

Table 2. Compliance and Agency Approvals

Feature	Description
Safety Standards	• UL/CSA/IEC/EN 60950-1 • IEC/EN 60825 Laser Safety • ACA TS001 • AS/NZS 60950 • FDA – Code of Federal Regulations Laser Safety
EMI	• FCC Class A • ICES 003 Class A • AS/NZS 3548 Class A • CISPR 22 (EN55022) Class A • VCCI Class A • BSMI Class A • IEC/EN 61000-3-2: Power Line Harmonics • IEC/EN 61000-3-3: Voltage Fluctuations and Flicker

Feature	Description
Immunity (Basic Standards)	• IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8kV Contact, 15kV Air) • IEC/EN-61000-4-3: Radiated Immunity (10V/m) • IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2kV Power, 1kV Signal) • IEC/EN-61000-4-5: Surge AC Port (4kV CM, 2kV DM) • IEC/EN-61000-4-5: Signal Ports (1kV) • IEC/EN-61000-4-5: Surge DC Port (1kV) • IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10Vrms) • IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30A/m) • IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations
ETSI and EN	• EN300 386: Telecommunications Network Equipment (EMC) • EN55022: Information Technology Equipment (Emissions) • EN55024: Information Technology Equipment (Immunity) • EN50082-1/EN-61000-6-1: Generic Immunity Standard
Network Equipment Building Systems (NEBS)	This product is designed to meet the following requirements (qualification in progress): • SR-3580: NEBS Criteria Levels (Level 3) • GR-1089-CORE: NEBS EMC and Safety • GR-63-CORE: NEBS Physical Protection

Additional Specifications

Table 3. Additional Specifications – Optics

Parameter	Short-Reach (1550-nm)
Connector Type	SC
Target Distance	2 km
Transmitter	
Power Out (Maximum)	3 dBm
Power Out (Minimum)	0 dBm
Extinction Ratio (Minimum)	8.2 dB
Side Mode Suppression (Minimum)	35 dB
Modulation Type	External
Receiver	
P (RMax) (Minimum Overload)	3 dBm
P (RMin) (Minimum Sensitivity)	-6 dBm
Optical Link	
Fiber Type	G.652 (single-mode fiber [SMF])
Maximum Dispersion	40 ps/nm
Attenuation Range	0-4 dB
Optical Path Penalty	2 dB
Compliance	G.693 VSR2000-3R2
Miscellaneous	
Optical Power Monitoring	±2 dB accuracy
Both Transmit and Receive Directions	
Laser Bias Current Monitoring	Transmit direction only
Temperature Monitoring	Transmit direction only

Ordering Information

To place an order, visit: Cisco Ordering Home Page

Table 4. Ordering Information

Product Part Number	Product Name
1OC768-POS-SR (=)	Cisco CRS-1 1-Port OC-768/STM-256 POS/DPT Interface Module; SR

Service and Support

Cisco offers numerous innovative services programs to accelerate customer success. These programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, visit: Cisco Technical Support Services or Cisco Advanced Services

For More Information

For more information about the Cisco CRS-1 1-Port OC-768c/STM-256c POS/DPT Interface Module, contact your local account representative or visit: http://www.cisco.com/go/crs

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