

# Refurbished CISCO 20-1GE-FLEX Datasheet

CISCO > ROUTERS

## Cisco Carrier Routing System

### Product Specifications

<b>System Compatibility</b>	Compatible with all Cisco CRS-1 and CRS-3 systems Requires one of the following forwarding engines: CRS-FP40 (on CRS-4/S and CRS-8/S only) or CRS-MSC-40G-B (on CRS-4/S, CRS-8/S, CRS-16/S, and CRS Multi-chassis)
<b>Software Compatibility</b>	Cisco IOS XR Software Release 3.8.1 or later for CRS-1 Cisco IOS XR Software Release 4.0.0 or later for CRS-3
<b>Interface Types</b>	Integrated Gigabit Ethernet using SFPs for physical interfaces SFPs supported: Short wavelength (SX) Long reach/long haul (LX/LH) Extended distance (ZX) Copper (RJ-45) SFP-GE-T SPAs can be Packet over SONET/SDH (POS) or Ethernet. The following SPAs are supported: SPA-5X1GE-V2 SPA-8X1GE SPA-8X1GE-V2 SPA-10X1GE-V2 SPA-1X10GE-L-V2 SPA-1X10GE-WL-V2 SPA-4XOC3-POS SPA-8XOC12-POS SPA-2XOC48POS/RPR SPA-4XOC48POS/RPR SPA-OC192POS-VSR SPA-OC192POS-XFP
<b>Port Density</b>	20 ports of integrated Gigabit Ethernet per card, each using SFP physical interfaces Two normal-height SPAs or one double-height SPA
<b>Ethernet</b>	Encapsulations: ARPA, IEEE 802.2/SAP, IEEE 802.3/SNAP IEEE 802.3x flow control Jumbo frames (9188 bytes) IEEE 802.1p tagging Source/destination MAC accounting and VLAN accounting Autonegotiation Full-duplex operation 802.1Q VLAN termination Per-port byte and packet counters for policy drops; oversubscription drops; cyclic redundancy check (CRC) error drops; packet sizes; and unicast, multicast, and broadcast packets Per-VLAN byte and packet counters for policy drops; oversubscription drops; and unicast, multicast, and broadcast packets Per-port byte counters for good bytes and dropped bytes
<b>Ethernet LED Indicators</b>	LED off: Port is not enabled by software LED: Port is enabled by software, but there is a problem with the Ethernet link LED green: Port is enabled by software, and there is a valid Ethernet link
<b>Reliability and Availability</b>	Online insertion and removal (OIR) without affecting system traffic Field-replaceable SFP optical modules
<b>Network Management</b>	Cisco IOS XR Software command-line interface (CLI) Simple Network Management Protocol (SNMP) Extensible Markup Language (XML) interface
<b>Physical Dimensions</b>	Occupies one PLIM slot Weight: 8.4 lb (3.8 kg) Height: 20.6 in. (52.2 cm) Depth: 11.2 in. (28.4 cm) Width: 1.8 in. (4.49 cm)
<b>Power</b>	150W
<b>Environmental Conditions</b>	Storage Temperature: -40 to 70°C (-40 to 158°F)

Operating Temperature:  
 Normal: 5 to 40°C (41 to 104°F)  
 Short-term: -5 to 50°C (23 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.)

## Compliance and Agency Approvals

<b>Safety Standards</b>	UL/CSA/IEC/EN 60950-1 IEC/EN 60825 Laser Safety ACA TS001 AS/NZS 60950 FDA - Code of Federal Regulations Laser Safety
<b>EMI</b>	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
<b>Immunity (Basic Standards)</b>	IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8 kV Contact, 15 kV Air) IEC/EN-61000-4-3: Radiated Immunity (10 V/m) IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2 kV Power, 1 kV Signal) IEC/EN-61000-4-5: Surge AC Port (4 kV CM, 2 kV DM) IEC/EN-61000-4-5: Signal Ports (1 kV) IEC/EN-61000-4-5: Surge DC Port (1 kV) IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10 Vrms) IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30 A/m) IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations
<b>ETSI and EN</b>	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
<b>Network Equipment Building Systems (NEBS)</b>	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

## Optical Specifications: Modular SFP Optics

<b>Gigabit Ethernet SFP Optics</b>	Maximum Distance
<b>SX SFP optics</b>	1804 ft (550m)
<b>LX/LH SFP optics</b>	6.2 mi (10 km)
<b>ZX SFP optics</b>	43.5 mi (70 km)
<b>Copper (RJ-45) SFP optics</b>	328 ft (100 m)

## The next steps...

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