



## Overview

Cisco C891F-K9 is ideal for managed services small branch or virtual office deployments and comes with fixed configurations. It offers a platform that is cost optimized to fit your business needs starting with 2 WAN connectivity options - Gigabit Ethernet and Fiber. This router is loaded with the practical stuff needed for the branch office.

### **Quick Specs**

Table 1 shows the Quick Specs.

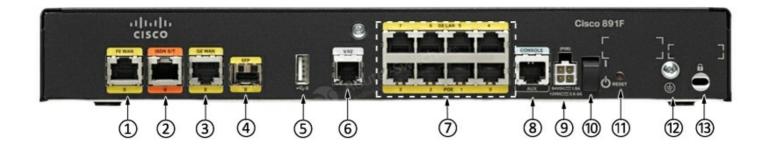
Product Code	C891F-K9
Rack Units	1RU
WAN Ports	1-port GE or 1-port SFP 1-port FE
LAN Ports	8-port 10-/100-/1000-Mbps managed switch (4-ports PoE capable with 125W power supply adapter)
802.11a/g/n Option	Yes Cisco CleanAir technology
Integrated USB 2.0/AUX/Console	Yes
DRAM	512MB
Flash Memory	256MB
Dimensions	4.62 x 32.28 x 24.84 cm (includes rubber feet) 4.45 x 32.28 x 24.84 cm (without rubber feet)
Package Weight	4.49 Kg

#### **Product Details**

Figure 1 shows the front panel of C891F-K9.



Figure 2 shows the back panel of C891F-K9.



#### Note:

(1)	Back up WAN port—FE WAN	(8)	Console/Auxiliary port
(2)	(2) ISDN		Power connector
(3)	(3) Primary WAN port—GE WAN		On/Off switch
(4)	SFP	(11)	Reset button
(5)	(5) USB port		Earth ground connection
(6)	(6) V.92 backup		Kensington security slot
(7)	8 x port 10/100/1000 Ethernet Ports with 4 x PoE Ports		

### **The Configuration**

#### Table 2 shows the recommended configuration of C891F-K9 router.

Items	Description
CAB-AC=	CAB-AC= AC Power Cord (North America), C13, NEMA 5-15P, 2.1m
S890VK9-15001M	Cisco 890 Series IOS UNIVERSAL
MEM8XX-256U512D	DRAM Upgrade
ISR-CCP-EXP	Cisco Config Pro Express on Router Flash
CAB-ETH-S-RJ45	Cisco Router Cable CAB-ETH-S-RJ45
PWR-60W-AC	Power Supply 60 Watt AC
SL-890-AIS	Cisco 890 Advanced IP Services License
GLC-LH-SM	GE SFP, LC connector LX/LH transceiver
GLC-SX-MM	GE SFP, LC connector SX transceiver
GLC-ZX-SM	1000BASE-ZX SFP

### **Compare to Similar Items**

Table 3 shows the comparison between C881-K9 and C891F-K9.

Models	С881-К9	C891F-K9	
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Interfaces	<ul> <li>LAN: 4 x 10Base-T/100Base-TX</li> <li>Management: 1 x console</li> <li>WAN : 1 x 10Base-T/100Base-TX</li> <li>USB : 1 x 4 PIN USB Type A</li> </ul>	<ul> <li>LAN: 8 x Gigabit ports;</li> <li>1 x Fast Ethernet ports</li> <li>Uplink: 1 x SFP ports</li> <li>Management: 1 x console - USB : 1 x 4 PIN USB Type A</li> </ul>
POE	2 port integrated PoE	4 POE ports
FAN	Fanless chassis	Fanless chassis

### Get more information

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# Specification

C891F-K9 Specifications			
WAN Interfaces	s 1-port GE or 1-port SFP 1-port FE		
LAN Interfaces	8-port 10-/100-/1000-Mbps managed switch (4-ports PoE capable with 125W power supply adapter)		
802.11a/g/n Option	Yes Cisco CleanAir technology		
Integrated USB 2.0/AUX/Console	Yes		
Integrated Dial Backup	V.92 analog modem ISDN BRI		
	Cisco IOS Software: Advanced IP Features Set (Default)		
IP and IP services	<ul> <li>Routing Information Protocol Versions 1 and 2 (RIPv1 and RIPv2)</li> <li>Generic routing encapsulation (GRE) and multipoint GRE (MGRE)</li> <li>Cisco Express Forwarding</li> <li>Standard 802.1d Spanning Tree Protocol</li> <li>Layer 2 Tunneling Protocol (L2TP)</li> <li>Layer 2 Tunneling Protocol Version 3 (L2TPv3)</li> <li>Network Address Translation (NAT)</li> <li>Dynamic Host Configuration Protocol (DHCP) server, relay, and client</li> <li>Dynamic Domain Name System (DNS)</li> <li>DNS Proxy</li> <li>DNS Spoofing</li> <li>Access control lists (ACLs)</li> <li>IPv4 and IPv6 Multicast</li> <li>Open Shortest Path First (OSPF)</li> <li>Border Gateway Protocol (BGP)</li> <li>Performance Routing (PfR)</li> <li>Enhanced Interior Gateway Routing Protocol (EIGRP)</li> <li>Virtual Route Forwarding (VRF) Lite</li> <li>Next Hop Resolution Protocol (MHRP)</li> <li>Bidirectional Forwarding Detection (BFD)</li> <li>Web Cache Communication Protocol (WCCP)</li> </ul>		
xDSL	<ul> <li>True Multimode VDSL2 and ADSL2+ over Annex A, B, J, and M including traditional G.DMT and T1.413</li> <li>World-class interoperability with industry-standard DSL access multiplexer (DSLAM) chipsets</li> <li>Highest field reliability with Impulse Noise Protection over REIN/SHINE, Extended INP-Delay, G.INP, Physical Layer Retransmission, SRA, and Bitswap</li> <li>VDSL2 Persistent Storage Device (PSD) profiles up to 17a/b with support for Spectral Shaping</li> <li>VDSL2 Vectoring to offer blazing fiber speeds over copper</li> <li>Support for 4-pair multimode G.SHDSL; that is, ATM and EFM</li> <li>Remote management with TR069 and CWMP</li> <li>Investment protection with GE and SFP for future fiber that could replace xDSL deployment</li> </ul>		

Switch features	<ul> <li>Auto Media Device In/Media Device Cross Over (MDI-MDX)</li> <li>25 802.1QVLANs</li> <li>MAC filtering</li> <li>Four-port 802.3af and Cisco compliant PoE</li> <li>Switched Port Analyzer (SPAN)</li> <li>Storm Control</li> <li>Smart ports</li> <li>Secure MAC address</li> <li>Internet Group Management Protocol Version 3 (IGMPv3) snooping</li> <li>802.1x</li> </ul>
Security features	Secure connectivity: Secure Sockets Layer (SSL) VPN for secure remote access Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256 Public-key-infrastructure (PKI) support Fifty IPsec tunnels Cisco Easy VPN Client and Server NAT transparency Dynamic Multipoint VPN (DMVPN) Tunnel-less Group Encrypted Transport VPN VRF-aware IPsec IPsec over IPv6 Adaptive control technology Session Initiation Protocol (SIP) application-layer gateway Cisco IOS Firewall VRF-aware stateful inspection routing firewall Stateful inspection transport firewall Advanced application inspection and control Secure HTTP (HTTPS), FTP, and Telnet Authentication Proxy Dynamic and static port security Firewall stateful failover VRF-aware firewall Cisco ScanSafe Connector Cisco IOS Software black and white lists Integrated threat control: Intrusion Prevention System (IPS) Control Plane Policing Flexible Packet Matching Network foundation protection
Quality of Service (QoS)	<ul> <li>Low-Latency Queuing (LLQ)</li> <li>Weighted Fair Queuing (WFQ)</li> <li>Class-Based WFQ (CBWFQ)</li> <li>Class-Based Traffic Shaping (CBTS)</li> <li>Class-Based Traffic Policing (CBTP)</li> <li>Policy-Based Routing (PBR)</li> <li>Class-Based QoS MIB</li> <li>Class-Based QoS MIB</li> <li>Class-Based Weighted Random Early Detection (CBWRED)</li> <li>Network-Based Application Recognition (NBAR)</li> <li>Link fragmentation and interleaving (LFI)</li> <li>Resource Reservation Protocol (RSVP)</li> <li>Real-Time Transport Protocol (RTP) header compression (cRTP)</li> <li>Differentiated Services (DiffServ)</li> <li>QoS preclassify and prefragmentation</li> <li>Hierarchical QoS (HQoS)</li> </ul>
Management	<ul> <li>Cisco Configuration Professional</li> <li>Cisco Configuration Express</li> <li>Cisco Configuration Engine support</li> <li>Cisco AutoInstall</li> <li>Cisco IP Service-Level Agreement (IP SLA)</li> <li>Cisco IOS Embedded Event Manager (EEM)</li> <li>CiscoWorks</li> <li>Cisco Security Manager</li> <li>Telnet, Simple Network Management Protocol Version 3 (SNMPv3), Secure Shell (SSH) Protocol, command-line interface (CLI), and HTTP management</li> <li>RADIUS and TACACS+</li> <li>Out-of-band management with ISDN S/T port or external modem through a virtual auxiliary port on models supporting those interfaces; refer to Table 2 for details</li> <li>Cisco Wireless Control System (WCS) for management of unified access points in models supporting WLAN; on models supporting WLAN, refer to Table 2 for details</li> </ul>
High availability	<ul> <li>Virtual Router Redundancy Protocol (VRRP) (RFC 2338)</li> <li>HSRP</li> <li>MHSRP</li> <li>Dial backup with external modem through virtual auxiliary port</li> <li>Dial backup with ISDN S/T or V.92 Analog modem port</li> </ul>

Metro Ethernet	<ul> <li>Ethernet OA&amp;M</li> <li>Ethernet Local Management Interface (E-LMI)</li> <li>IP SLA for Ethernet</li> </ul>	
IPv6	<ul> <li>IPv6 addressing architecture</li> <li>IPv6 name resolution</li> <li>IPv6 statistics</li> <li>IPv6 translation: Transport packets between IPv6-only and IPv4-only endpoints (NAT-Protocol Translation)</li> <li>Internet Control Message Protocol Version 6 (ICMPv6)</li> <li>IPv6 DHCP</li> <li>OSPFv3</li> <li>BGP4+</li> <li>IPv6 path maximum transmission unit (PMTU)</li> <li>IPv6 Neighbor Discovery</li> <li>IPv6 stateless address autoconfiguration (SLAAC)</li> <li>IPv6 Multicast Routing</li> </ul>	
Unified WLAN management	<ul> <li>Unified access-point features:</li> <li>Supported by wireless LAN controller and Cisco WCS</li> <li>Configurable local or central switching for Hybrid Remote Edge Access Point (HREAP) mode</li> <li>Radio management through Cisco WCS</li> <li>Transparent roaming with mobility groups</li> </ul>	
Application visibility and control	<ul> <li>Cisco Wide Area Application Services (WAASx)</li> <li>NBAR2</li> <li>Flexible NetFlow (FNF)</li> <li>Performance Agent</li> </ul>	
Number of recommended users	50	
	WLAN Features (Available with Wireless Option)	
Standard 802.11 a/g/n access point	Optional on Cisco 890 Series models	
WLAN hardware	<ul> <li>Support for Cisco CleanAir technology on Cisco 897 and 891F</li> <li>Automatic rate selection for 802.11a/g/n</li> <li>Noncaptive RPTNC omnidirectional dipole antennae; 2-dBi gain @ 2.4 GHz, 5-dBi gain @ 5 GHz</li> <li>2 x 3 multiple input, multiple output (MIMO) radio operation</li> <li>Wi-Fi 802.11n Draft v2.0 certified</li> </ul>	
WLAN software features	<ul> <li>Autonomous or unified access point</li> <li>Cisco WCS support for monitoring of autonomous-mode access points</li> <li>Option to maximize throughput or maximize range</li> <li>Software-configurable transmit power</li> <li>Radio roles, including access point, root bridge, nonroot bridge, and workgroup bridge</li> <li>Wi-Fi Multimedia (WMM) certification</li> <li>Traffic specifications (TSPEC) Call Admission Control (CAC) to ensure voice quality is maintained</li> <li>Unscheduled Automatic Power Save Delivery (UPSD) to reduce latency</li> </ul>	
WLAN security features	<ul> <li>Standard 802.11i</li> <li>Wi-Fi Protected Access (WPA) and AES (WPA2)</li> <li>EAP authentication: Cisco Light Extensible Authentication Protocol (LEAP), Protected Extensible Authentication Protocol (PEAP), Extensible Authentication Protocol Transport Layer Security (EAP TLS), Extensible Authentication Protocol-Flexible Authentication Protocol-Subscriber Information Module (EAP-SIM), Extensible Authentication Protocol-Message Digest Algorithm 5 (EAP-MD5), and Extensible Authentication Protocol-Tunneled TLS (EAP-TTLS)</li> <li>Static and dynamic Wired Equivalent Privacy (WEP)</li> <li>Temporal Key Integrity Protocol/Simple Security Network (TKIP/SSN) encryption</li> <li>MAC authentication and filter</li> <li>User database for survivable local authentication using LEAP and EAP-FAST</li> <li>Configurable limit to the number of wireless clients</li> <li>Configurable RADIUS accounting for wireless clients</li> <li>Preshared keys (PSKs) (WPA-small office or home office [WPA-SOHO])</li> </ul>	
Certifications	Note: Due to new FCC WiFi June 2016 regulation (FCC rules for part 15.409), the WLAN radio used in the ISR's (specifically C819 –A WiFi Domain with AP802 dual 802.11 radio) Cisco will be issuing a new grant for the 5GHz dual 802.11n radio. The specific reason for the change is due to the inability of the radio to detect the various radar pulses (DFS function) over the entire bandwidth of the channels in the 5250-5350 and the 5500-5700 A radio channel bands (which will be disabled). As a consequence the radio will now operate from 5150-5250 and 5745-5850 A radio bands. This will provide a total of nine channels in the 5GHz range.	

Service Set Identifiers (SSIDs) and Multiple Broadcast SSIDs	• 16	
Wireless VLANs	• 14 (encrypted and nonencrypted VLANs)	
Default and maximum DRAM	<ul> <li>Default 512MB</li> <li>Up to 1 GB on Cisco 892FSP, 896VA, 897VA, 897VAB, 898EA, 891F, and 891-24X data models; upgrade option available</li> </ul>	
Default and maximum flash memory	• 256 on all Cisco 890 ISR models; not upgradable	
WAN	Refer to Table 2 for details	
LAN switch	Refer to Table 2 for details	
Separate console and auxiliary ports	• RJ-45	
USB 2.0	<ul> <li>One USB 2.0 port available on Cisco 892FSP, 896VA, 897VA, 897VAB, 898EA, 891F, and 891-24X</li> <li>USB devices supported:</li> <li>USB flash memory</li> </ul>	
ISDN BRI S/T	Refer to Table 2 for details	
Inline PoE	<ul> <li>Optional internal adapter for inline PoE on 4 switch ports for IP phones or external wireless access points; 802.3af- compliant and Cisco PoE-compliant</li> <li>No PoE support on Cisco 892FSP</li> </ul>	
Wireless specifications	• 2.4 and 5 GHz	
Data rates supported	<ul> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps</li> <li>802.11b: 1, 2, 5.5, 6, 9, and 11 Mbps</li> <li>802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</li> <li>802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, and m0-m15</li> </ul>	
Maximum transmit power (2-channel aggregate)	<ul> <li>802.11a: 15dBm</li> <li>802.11b: 20 dBm</li> <li>802.11g: 17 dBm</li> <li>802.11n: 16 dBm</li> <li>Note: Maximum power setting is subject to change by channel and by region, depending on regulations.</li> </ul>	
Physical dimensions and weight	Weight: 5.5 lb (2.5 kg) maximum Product dimensions: • H x W x D =1.82 x 12.71 x 9.78 in. (4.62 x 32.28 x 24.84 cm) (includes rubber feet) • H x W x D = 1.75 x 12.71 x 9.78 in. (4.45 x 32.28 x 24.84 cm) (without rubber feet)	
External power supply	<ul> <li>Product power specifications:</li> <li>AC input voltage: Universal 100 to 240 VAC</li> <li>Frequency: 50 to 60 Hz</li> <li>Maximum output power: 60W</li> <li>Output voltages: 12 VDC</li> <li>Optional PoE:</li> <li>Separate 80W PoE power supply for Cisco 891 and 892 ISRs</li> <li>Single 125W power supply required for Cisco 896, 897, 898, and 891F for router and PoE</li> <li>The Cisco 891-24X uses the internal power supply for PoE</li> <li>External output voltage: 48 VDC</li> </ul>	

Approvals and compliance	<ul> <li>Emission</li> <li>47 CFR Part 15: 2006</li> <li>CISPR22: 2005</li> <li>EN300386: V1.3.3: 2005</li> <li>EN55022: 2006</li> <li>EN61000-3-2: 2000 [Inc amd 1 &amp; 2]</li> <li>EN61000-3-3: 1995 [+ amd 1: 2001]</li> <li>ICES-003 Issue 4: 2004</li> <li>KN 22: 2005</li> <li>VCCI: V-3/2006.04</li> <li>Immunity</li> <li>CISPR24: 1997 [+ amd 1 &amp; 2]</li> <li>EN300386: V1.3.3: 2005</li> <li>EN50082-1: 1992</li> <li>EN50082-1: 1997</li> <li>EN50082-1: 1997</li> <li>EN55024: 1998 [+ amd 1 &amp; 2]</li> <li>EN55024: 1998 [+ amd 1 &amp; 2]</li> <li>EN50082-1: 1997</li> <li>EN55024: 1998 [+ amd 1 &amp; 2]</li> <li>EN50082-1: 2001</li> </ul>
Environmental operating range	<ul> <li>Nonoperating temperature: -4 to 149°F (-0 to 65°C)</li> <li>Nonoperating humidity: 5 to 95% relative humidity (noncondensing)</li> <li>Nonoperating altitude: 0 to 15,000 ft (0 to 4570m)</li> <li>Operating temperature: 32 to 104°F (0 to 40°C)</li> <li>Operating humidity: 10 to 85% relative humidity (noncondensing)</li> <li>Operating altitude: 0 to 10,000 ft (0 to 3000m)</li> </ul>

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