

# Carat20-R6XF48GT-RHV

## Rackmount Layer 2 Industrial Ethernet Switches

### Features

- 6 x 10G SFP optical port slots ,48 x 1000M electric ports
- Wide variety of ports, comprehensive functions and excellent performance
- Highly reliable redundant ring technology, link failure recovery time <20ms
- High-strength aluminum alloy hermetic enclosure structure is resistant to shock and vibration, sturdy and durable
- Industrial fanless design is stable and reliable for long working hours
- Support AutoSniffer device management software, intelligent industrial network management



### Product Overview

Carat20-R6XF48GT-RHV Layer 2 Rackmount Industrial Ethernet Switch is a high-performance switch designed for rail transportation and industrial automation network communication, which complies with industry standards such as EN50155, EN50121, UL61010, and obtains a number of certificates such as CE, FCC, UL, and so on, and is suitable for use in harsh working environments. The Carat20-R6XF is suitable for use in harsh environments and

provides highly reliable industrial network connectivity solutions for different industrial applications.

The Carat20-R6XF48GT-RHV provides 48 TX ports and 6 slots for 10 Gigabit SFP+ optical ports.

Carat20-R6XF48GT-RHV supports network management functions based on command line, Telenet, SNMP, SSH, Web page, etc. It supports Virtual LAN (VLAN), IGMP Snooping, Port Trunk, Port Security, Port Mirror, Service Mirror, and Port Security. (Supports Layer 2 switching functions such as virtual LAN (VLAN), multicast snooping (IGMP Snooping), link aggregation (Port Trunk), port security, port mirroring, and quality of service (QoS).

## Specifications

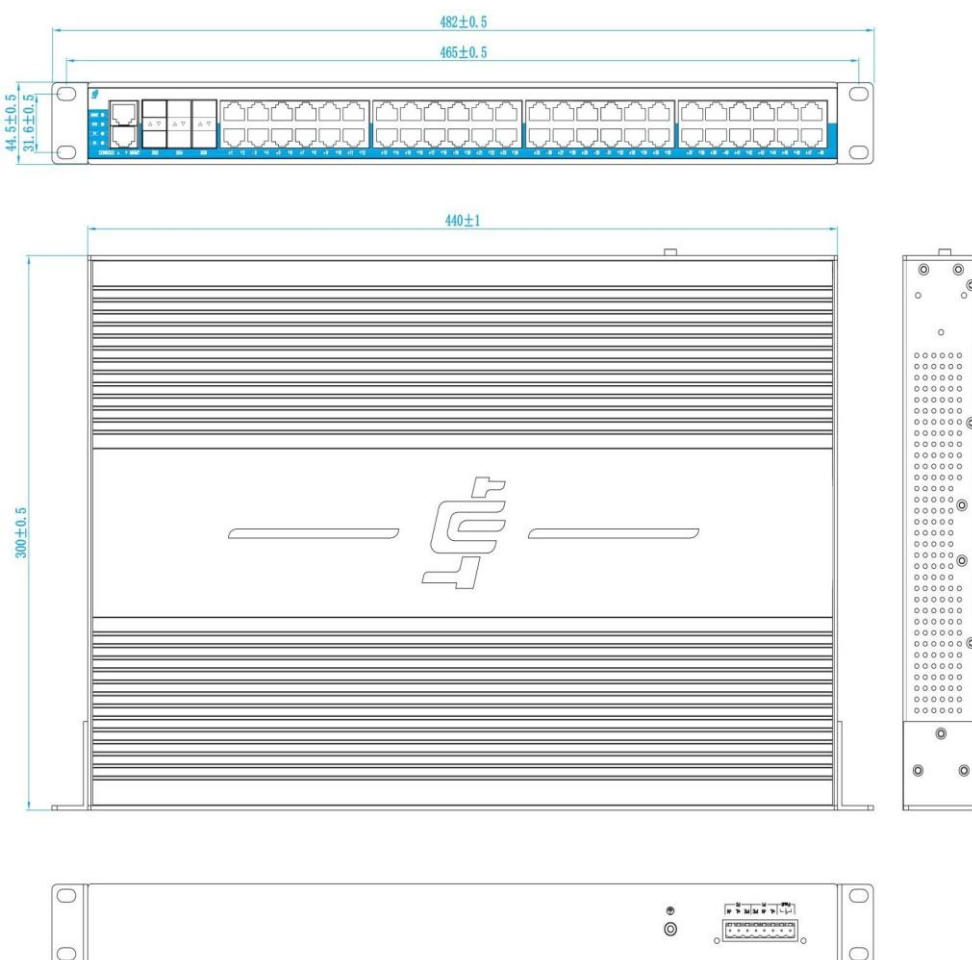
Compliances	
Standards	IEEE 802.3i(10Base-T) IEEE 802.3u(100Base-TX) IEEE 802.3ab(1000Base-T) IEEE 802.3ad (port aggregation) IEEE 802.3z(1000Base-SX/LX) IEEE 802.3x(Flow Control) IEEE 802.1p (Priority) IEEE 802.1Q (VLAN) IEEE 802.1d(STP) IEEE 802.1w(RSTP) IEEE 802.1s(MSTP) IEEE 802.1X (Authentication) IEEE 802.3ad (LACP)
Switch Properties	
Switching Characteristics	Store and forward
Switching Capacity	216Gbps
Packet Forwarding Rate	160.7Mpps
VLAN	4K
MAC Address	16K
Physical port	
Electrical port	6 slots for 10Gb SFP+ optical ports
Optical port	48 Gigabit Electrical Ports
Network Management Port	1 Console Management Port (RS-232), RJ45
Out-of-band management port	1 MGMT Out-of-Band Management Port, RJ45
LED Indicator	System Indicator (SYS), Power Indicator (P1, P2), Interface Indicator (Link/ACT), Out-of-Band Port Indicator (MGMT)
Main Features	
VLAN	Supports Port-based Vlan

	<p>Supports IEEE802.1Q Vlan</p> <p>Supports Private Vlan</p> <p>Supports Protocol Vlan</p> <p>Supports Voice Vlan</p> <p>Supports Normal QinQ</p> <p>Supports Selective QinQ</p> <p>Supports Flexible QinQ</p> <p>Supports vlan translation</p> <p>Supports N:1 vlan translation</p>
DHCP	<p>Supports IPv4/IPv6 DHCP Client, IPv4/IPv6 DHCP Relay</p> <p>Supports Option 82, Option 37/38</p> <p>Supports IPv4/IPv6 DHCP Snooping, IPv4/IPv6 DHCP Server</p>
Reliability	<p>Supports STP, RSTP, MSTP</p> <p>Supports LACP load balancing</p> <p>Supports EMVTE (ULPP+ULSM) and MRPP</p> <p>Supports G.8032 standardized ring protocol (ERPS)</p> <p>Supports Loopback detection, VCT, DDM</p> <p>Supports ULDP (implements the same features as Cisco UDLD)</p>
Security	<p>Supports port speed limiting and broadcast storm control.</p> <p>Supports port/MAC binding and MAC filtering.</p> <p>Supports port-based and VLAN-based MAC count limitations.</p> <p>Supports anti-ARP spoofing, anti-ARP scanning, ARP binding</p> <p>Supports DHCP Snooping, ND Snooping</p> <p>Supports Standard IEEE 802.1x, Extended IEEE 802.1x, Web Portal</p> <p>Supports TACACS+.</p>
Multicast	<p>Support IGMP v1/v2/v3 snooping, MLD v1/v2 snooping</p> <p>Supports multicast VLAN, IPv4/IPv6 DCSCM.</p>
QoS	<p>Supports flow classification based on ACL flow, VLAN ID, COS, TOS, DSCP, IPv6 FlowLabel.</p> <p>Supports aggregated PolicyMap</p> <p>Supports port-based and VLAN-based PolicyMap bindings.</p> <p>Supports single-speed single-bucket two-color, single-speed double-bucket three-color, double-speed double-bucket three-color regulation</p> <p>Supports DSCP, COS/802.1p priority, TOS and other field rewriting.</p> <p>Supports 8 queues per port</p>
ACL	<p>Supports IP ACLs, matching based on source/destination IP, IP protocol type, IP precedence, TCP/UDP source and destination</p> <p>MAC ACLs, based on source/destination MAC, VLAN ID, COS, etc.</p> <p>Supports MAC ACL, matching based on source/destination MAC, VLAN ID, COS and other fields.</p> <p>Supports IP+MAC combination ACLs Supports ACLs that take effect according to a time period</p> <p>Supports port-based and VLAN-based ACL binding.</p>

	Supports ACL-based redirection. Supports traffic statistics analysis based on ACL matching.		
Management Operations and Maintenance	Supports CLI Supports IPv4/IPv6 HTTP Supports IPv4/IPv6 FTP/TFTP Supports IPv4/IPv6 SNMP/NTP Supports IPv4/IPv6 telnet username and password for radius authentication. Supports SSH for IPv4/IPv6 Supports Security IP security network management function. Supports syslog for IPv4/IPv6 Supports SNMPv1/v2c/v3 Supports MIB interface. Supports Trap Supports RMON 1,2,3,9 four groups Supports LLDP Supports port mirroring, CPU mirroring, and RSPAN. Supports sFlow traffic monitoring. Supports detection of task anomalies, memory anomalies, CPU utilization, and stack anomalies. Supports monitoring of switching chips, power supply anomalies, etc.		
IPv6 Features	Support ICMPv6, ND Support IPv6 Ping/tracert, IPv6 Telnet, IPv6 Syslog, IPv6 FTP/TFTP Support SNMP over IPv6, HTTP over IPv6 Support 6to4, config, istap		
Mechanical			
Dimensions	440mm×300mm×44.5mm (W×D×H) without lugs		
Weight	4.9kg		
Installation	19-inch 1U Rackmount		
Protection	IP30 rated, pleated high-strength aluminum enclosure		
Electrical			
Input Voltage	220VAC (85~265VAC & 100~370VDC) redundant power input, 8Pin-5.08 pitch terminals		
Power	<53W		
Working Environment			
Operating Temperature	-40℃~75℃		
Storage Temperature	-40℃~85℃		
Relative Humidity	10%~95% (Non condensing)		
Certifications			
System certification	ISO9001, ISO14001, ISO22163 (IRIS)		
EMC	EMI	FCC CFR47 Part 15B Class A, CE EN55032 Class A	
	EMS	ESD	EN61000-4-2
		RS	EN61000-4-3
		EFT	EN61000-4-4

	Surge	EN61000-4-5
	CS	EN61000-4-6
	PFMF	EN61000-4-8
Vibration	Compliance with IEC 60068-2-6	
Shock	Compliance with IEC 60068-2-27	
Free Fall	Compliance with IEC 60068-2-32	
MTBF	Mean Time Between Failure (MTBF) greater than 50,000 hours	

## Physical Dimensions



Model	Description
Carat20-R6XF48GT-RHV	Layer 2 rack-mountable industrial Ethernet switch, 48 Gigabit TX 6 10G SFP+ optical ports, 220VAC redundant power input, IP30 protection level