



Field tested, failsafe and long life performance in extreme conditions. These 15.5" depth units are based on the Ruckus® ICX® 7450 series. These switches are enterprise class, stackable LAN solutions for small and medium size applications. Crystal switches provide intelligent, scalable, edge switch technology with enterprise class functionality and mil-spec environmental performance.

Crystal Group Rugged Networking appliances bring plug-and-play functionality to demanding military, industrial, and commercial applications in air, land and sea. Top-of-the-line switches, firewalls, and routers are housed in rugged, lightweight, and compact enclosures, such as transit cases or 19-inch racks with strain-hardened aircraft aluminum, designed to survive extreme environments, extreme temperatures, and high shock and vibration.

Innovative solutions. Crystal Group's portfolio of rugged and industrial computing products are engineered and tested to withstand challenging environments, meet and exceed military and industrial standards, and provide the latest COTS technologies and benefits, such as cost, availability, upgradability, and flexibility.

Dependable services. When a computing application requires a custom solution, Crystal Group delivers – on time and on budget – with professional services, including product design and development, testing, systems engineering and integration, mechanical and electrical engineering, configuration management, and product lifecycle planning.

Dedicated support. Crystal Group's expert staff and global network provide fast and effective product support when and where it is needed, whether in-house or in the field. Count on Crystal Group for fast response times, quick turnarounds, 5+ year warranties, and quality service around the clock and around the globe.

FEATURES

- Light weight construction from billet strain, hardened aluminum
- Easy mounting in EIA-310 19" rack, Delrin glides, or fixed mount
- 24 Copper, 48 Copper and 48 SFP port designs in 15.5" chassis
- Modular upgrade capability
- Layer 2+ and Layer 3 capable
- AC/AC, AC/DC, and DC/DC 1+1 MIL-STD-461 EMC compliance

A clear advantage.

Specifications

	RCS7450-24 Copper	RCS7450-48 Copper	RCS7450-48 SFP
Mechanical			
Height	1U	1U	1U
Width	17.32" (43.99 cm)	17.32" (43.99 cm)	17.32" (43.99 cm)
Depth	15.5" (39.4 cm)	15.5" (39.4 cm)	15.5" (39.4 cm)
Weight	16.95 lbs (7.7 kg) depending on supply configuration	17.55 lbs (8.0 kg) depending on supply configuration	17.99 lbs (8.2 kg) depending on supply configuration
Cooling	Forced air convection via internal high reliability fans	Forced air convection via internal high reliability fans	Forced air convection via internal high reliability fans
Designed to (testing in progress) Environmental Standards	MIL-STD-810, Operational Temperature, Method 501/502 Procedure I/II: -40°C to +55°C ² MIL-STD-810, Vibration, Method 514, Procedure I: 4.43 GRMS, 5-2000Hz, 60 min/axis -with solid state drives + vibration kits ² MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec--functional shock; 40g, 11msec crash hazard shock ² MIL-STD-810, Humidity, Method 507 - with kit ² MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport ²	MIL-STD-810, Operational Temperature, Method 501/502 Procedure I/II: -40°C to +55°C ² MIL-STD-810, Vibration, Method 514, Procedure I: 4.43 GRMS, 5-2000Hz, 60 min/axis -with solid state drives + vibration kits ¹ MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec--functional shock; 40g, 11msec crash hazard shock ¹ MIL-STD-810, Humidity, Method 507 - with kit ² MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport ²	MIL-STD-810, Operational Temperature, Method 501/502 Procedure I/II: -40°C to +55°C ² MIL-STD-810, Vibration, Method 514, Procedure I: 4.43 GRMS, 5-2000Hz, 60 min/axis -with solid state drives + vibration kits ² MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec--functional shock; 40g, 11msec crash hazard shock ² MIL-STD-810, Humidity, Method 507 - with kit ² MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport ²
Mounting	Fixed or Delrin Glides, mounts in std EIA-310 rack	Fixed or Delrin Glides, mounts in std EIA-310 rack	Fixed or Delrin Glides, mounts in std EIA-310 rack
Power Supply			
AC, Auto Switching	90-246VAC, Auto-switching	90-246VAC, Auto-switching	90-246VAC, Auto-switching
DC, EMI compliant to MIL-STD-461, CE102, RE102	18-36VDC, 1+1 redundant	18-36VDC, 1+1 redundant	18-36VDC, 1+1 redundant
Non-rugged COTS	48VDC	48VDC	48VDC
Connectors	Available with MIL-CIRC connectors, for power	Available with MIL-CIRC connectors, for power	Available with MIL-CIRC connectors, for power
Switch Features			
10/100/1000 Mbps RJ-45 Ports	Twenty-Four (24)	Forty-Eight (48)	-
10/100/1000 Mbps SFP Ports	-	-	Forty-Eight (48)
Modular Slots	Three (3)	Three (3)	Three (3)
1 GbE SFP Ports	Four (4)	Four (4)	Four (4)
1/10 GbE SFP/SFP+ Ports	Twelve (12)	Twelve (12)	Twelve (12)
1/10GBASE-T RJ-45 Ports	Twelve (12)	Twelve (12)	Twelve (12)
40 GbE QSFP+ Ports	Three (3)	Two (2)	Two (2)
IPv4/v6 L3 Routing	With License	With License	With License
Stacking Bandwidth	960 Gbps	960 Gbps	960 Gbps
Stacking Density	Twelve (12)	Twelve (12)	Twelve (12)
Stacking Distance	10 km	10 km	10 km
Internal AC Power Supply Rating	2 X 250 W	2 X 250 W	2 X 250 W
Internal DC Power Supply Rating	2 X 510W	2 X 510W	2 X 510W
Switching Capacity (Full Duplex)	288 Gbps	336 Gbps	336 Gbps
Forwarding Capacity (Full Duplex)	214 Mpps	250 Mpps	250 Mpps
Export Compliance	ECCN: 5A002.a.1 Classification is dependent on configuration and is subject to change.	ECCN: 5A002.a.1 Classification is dependent on configuration and is subject to change.	ECCN: 5A002.a.1 Classification is dependent on configuration and is subject to change.

1 - Test report available

2 - Designed to meet standard

Certification reports for select products are available on Crystalrugged.com. Crystal Group designs all switches to meet or exceed the specifications listed herein. Due to the numerous models and component combinations, some configurations are still being tested. Please contact your Crystal Business Development Manager for test data on desired requirements.

AS9100C:2009 and ISO 9001:2008 Certified QMS