PacStar 221

The PacStar® 221 provides high-density network access at Gigabit speeds for critical voice, data, and video connectivity

Key Features

- Based on Cisco Embedded Services (ESS) 3300 with (2) 10 GigE SFP+ (8) GigE RJ45 ports
- Industry-leading size, weight, and power (SWaP) provides customers maximum flexibility when integrating into programs where mobility and deployment speeds are critical
- Integrated smart power supply that runs on and recharges tactical radio batteries, wide- range DC input and worldwide AC input
- Optionally managed by IQ-Core® Software for easy setup and configuration
- Extended temperature range and fanless design improves reliability and uptime
- Small, but powerful; only 5.75” x 7.25” x 0.825”

The PacStar 221 small switch module enables networking for a wide variety of edge-based C5ISR, cybersecurity, sensor, IoT, computing, and storage applications. It connects multiple devices to mission-critical tactical, ground-vehicle, and aircraft-mounted communications networks deployed in the field. PacStar 221 is ideal for use in environments requiring specialized form factor, size, weight, and power (SWaP), port density, port media, and ruggedized communications needs.

Designed from the ground up to provide flexible deployment, configuration, and setup options, PacStar 221 can be used as follows:

- Included in a modular, flexible system comprised of PacStar 200-Series and 400-Series modules, mounted in a variety of packaging and transport options
- In snap-together configurations with other PacStar 200-Series and 400-Series modules including switches, servers, and gateways
- As a standalone switch module with Power Input Adapter (sold separately)

The module integrates seamlessly with other PacStar 200-Series and 400-Series standard small form factor modules, providing the best in small size, flexible power, and environmental ruggedness. PacStar also offers a wide array of system packaging options, including briefcase, transit case, rack-mount, vehicle-mount, and backpack transport options.

Specifications

Hardware Specifications
- 4-GB DDR4 RAM
- 4-GB eMMC flash storage

Software Specifications
- Cisco IOS XE software
- Available technology packages: Network Essentials and Network Advantage

I/O Connectors
- 10) ports total:
  - (6) RJ45 (10/100/1000 BASE-T Ethernet with PoE Plus)
  - (2) rear-mounted RJ45 (10/100/1000 BASE-T Ethernet)
  - (2) SFP+ 10G
- (1) RS-232 console port
- MicroSD card slot for input/export/storage of configurations

Physical Specifications
- Dimensions: 5.75” x 7.25” x 0.825”
- Weight: 2.0 lbs
- Fanless design for quiet operation, high reliability, and low power draw
- Operational temperature -20C to 60C
- Extensively tested to MIL-STD-810/461 by independent labs. Reports available on request. For more information, see: pacstar.com/testing/
- Includes zeroize button and overtemperature indicator
- RoHS compliant

Power Specifications (with Power Input Adapter or chassis sold separately)
- Power draw: Nominal 13 watts total
- Battery snap-together connectors for
- 1-2 each AN/PRC- 152/148 snap-on radio batteries; hot-swappable with 5+ hours runtime per battery
- Includes built-in recharger for attached tactical radio batteries
- Wide-range DC input, 10 - 35 VDC. For example, allows powering with AN/ PRC-117 radio batteries
- Worldwide AC power input (power supply with adapter cable)
- Regulated clean 12 VDC output, 20 watts (supports KG-250X/XS or KG- 175D)
- Locking power input connector to prevent accidental disconnection
- Power input specifications available for creating custom cables with industrystandard parts
- Available marked chassis ground for external grounding

Other Capabilities
- Lights-out mode
- Zeroize button for configurable secure erasure

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Table 1 **Network Advantage License**

Network Essentials License	Description
Layer 2 switching	IEEE 802.1, 802.3 standard, NTP, UDLD, CDP, LLDP, unicast MAC filter, VTPv2, VTPv3, EtherChannel, voice VLAN, PVST+, MSTP, and RSTP
Multicast	IGMPv1, v2, v3 snooping, IGMP filtering, IGMP querier
Management	Web UI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session (1), Full Flexible Netflow (FnF), NETCONF, RESTCONF
Security	Port security, 802.1x, Dynamic Host Configuration Protocol (DHCP) snooping, dynamic ARP inspection, IP source guard, guest VLAN. MAC authentication bypass, 802.1x multidomain authentication, storm control - unicast, multicast, broadcast, SCP, SSH, SNMPv3, TACACS+, RADIUS server/client, MAC address notification, BPDU guard, MACsec-128, Central Web Authentication (Redirection), ARP Snooping
Quality of service	Ingress policing, rate limit, egress queuing/shaping, autoQoS
Layer 2 IPv6	IPv6 host support, HTTP over IPv6, SNMP over IPv6
Redundancy Protocols	Resilient Ethernet Protocol (REP)

Table 2 **Network Advantage License**

Network Essentials License	Description
IP routing	IOSPF (V2 and V3), RIP (V1 and V2), ISIS (for IPv4 and IPv6), EIGRP (for IPv4 and IPv6), PBR (Policy Based Routing)
Virtualization	VRF-lite
Security	Web UI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session (1), Full Flexible Netflow (FnF), NETCONF, RESTCONF
Security	MACsec-256
IP Multicast	PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM) and PIM Sparse dense mode
High Availability	Bidirectional Forwarding Detection (BFD) echo mode, HSRP (IPv4 and IPv6), VRRP (IPv4 and IPv6)