

## Aggregation Switch

### HSP-IO-24GE4XS-C3AH+

### 24-Port Non-PoE L3 Managed Switch



#### Overview

- Fully Managed L3 Switch with wire speed Non-Blocking Architecture
- All Gigabit Ethernet Access Ports with 10G Uplinks in a fixed 1U configuration
- 24x10/100/1000 Base-T Access ports with auto MDI-MDIX and auto negotiation support
- 4x1/10G SFP+ Uplink Ports that allow termination on either fiber or copper based on SFP module
- Powerful WebGUI with industry standard Command Line Interface
- Upto 128 Gbps Switching capacity and up to 95.232 MPPS of Full Duplex Throughput
- Comply with Energy Efficient Ethernet Standards (802.3az)
- Suitable as Access or Aggregation Switch in Enterprise/ Campus/ Telco Environment

#### Switch Ports

- 24x10/100/1000 Base-T Gigabit Access Ports
- 4x1/10G SFP+ Uplink Ports (MSA Compliant)
- One Serial Console Port and One Out-of-Band Management Port
- Link, Activity, Speed LEDs
- System status LED and onboard RESET button

#### Industry Standard Management with Automation

- **Management Interfaces:** CLI and WebGUI (HTTP and HTTPS)
- **Protocol Support:** Dual Stack (IPv4/IPv6), Telnet, SSHv2, Syslog, SNMP v1/v2/v3, SMTP
- **Monitoring & Analytics:** RMON, sFlow, TWAMP Light, Port & VLAN Mirroring, L2 and L3 Traceroute
- **Time Services:** NTP and Secure NTP
- **IP Services:** DHCP Server, Relay, and Client
- **File Transfer & Provisioning:** TFTP, SCP, SFTP, Zero Touch Provisioning
- **Diagnostics & Resiliency:** Time Domain Reflectometry, Dying Gasp

# HSP-IO-24GE4XS-C3AH+

## KEY FEATURE HIGHLIGHTS



### Rich L2 Features

- **VLANs:** Support up to 4094 VLAN IDs, Voice VLAN, IP-subnet VLAN, Protocol-based VLAN, Private VLAN, MAC-based VLAN, GVRP/MVRP for dynamic VLAN registration
- **Loop Avoidance & Resiliency:** STP (802.1D), RSTP (802.1w), MSTP (802.1s); STP Root and Edge Port Protection; ERPS (ITU-T G.8032); UDLD (Unidirectional Link Detection); IEEE 802.3x Flow Control
- **Multicast:** IGMP v1/v2/v3 Snooping, IGMP Filtering, IGMP Proxy, IGMP Querier, MLD Snooping and MVR (Multicast VLAN Registration)
- LACP-based LAG, Static LAG with load sharing and active-passive policies
- IEEE 802.1Q VLAN Tagging, QinQ (Port-based)
- **QoS:** Up to eight priority queues, Rate Limiting/Policing, Shaping (SP, WRR), Multi-Field (802.1p/DSCP) Classification and Remarking
- LLDP and LLDP-MED for end-point/VoIP device discovery
- **MAC Table:** 32K entries, Jumbo MTU: 10240 Bytes

### L3 Features

- IPv4 and IPv6 Static Routing
- RIP v1/v2 L3 Dynamic Routing
- OSPFv2/v3 L3 Dynamic Routing
- Inter-VLAN Routing
- IPv4/IPv6 Dual Stack

### Advanced Features

- IEEE 802.3ah Link-level OAM
- IEEE 802.1ag Ethernet CFM (ITU-T Y.1731 Performance Monitoring)

### Security Features

- Up to 2000 L2/L3/L4 ACL with extended features, Time-based ACLs
- 802.1X Port Security with RADIUS Accounting & Dynamic VLAN Assignment, Dynamic/Downloadable ACLs
- **AAA Support:** TACACS+, RADIUS and RADSec
- DHCP snooping, Dynamic ARP Inspection, DHCPv6 Guard
- Inherent DoS Prevention, Port Security, Sticky MAC, IP-MAC Binding
- PKI Key, Certificate, SSL IPv4/IPv6, IPv6 Source Guard
- Storm Control - Broadcast, Multicast and Unknown Unicast

### Switching / Forwarding Capacity

|                     |             |
|---------------------|-------------|
| Switching Capacity  | 128 Gbps    |
| Forwarding Capacity | 95.232 MPPS |

### Design Parameters

- Memory (DRAM): 2GB and Storage (Flash): 4GB
- Packet Buffer: 6MB
- Operating Temperature: -5°C to 55°C (5% to 95% non-condensing)
- Altitude: 3000 Meters (10,000 Feet)
- Dimension (WxHxD): 442 x 44 x 211 mm

### Power Supply Options

- Integrated Redundant Dual AC Power (100-240 VAC 50-60 Hz)
- Modular Redundant Dual AC Power (100-240 VAC 50-60 Hz)

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### Compliance & Certifications

|                       |                                                              |
|-----------------------|--------------------------------------------------------------|
| EMI/EMC (TEC)         | IEC 61000-4                                                  |
| EMI/EMC (CE)          | EN55032 / EN55024                                            |
| FCC Compliance        | FCC Part-B                                                   |
| Safety (CE)           | EN62368-1                                                    |
| Reliability Test      | QM333 Cyclic                                                 |
| Environmental Tests   | IEC 60068-2                                                  |
| ESS Tests             | IEC 60068-2<br>(Vibration, Shock, Drop, Bump, High Altitude) |
| MTCTE (India)         | Mandatory Testing & Certification of<br>Telecom Equipment    |
| Type Approval (India) | TEC-GR                                                       |
| Trusted Portal        | Country-specific security/trust compliance                   |
| RoHS                  | Restriction of Hazardous Substances                          |
| IPv6 Logo             | IPv6 Ready Logo Certification<br>(Phase-2 Gold)              |

### Ordering Information

| Model No.            | Description                                                                        |
|----------------------|------------------------------------------------------------------------------------|
| HSP-IO-24GE4XS-C3AH+ | IO, 24-Port, Non PoE, L3 Managed Switch, 4x1/10G SFP+ Uplinks with AC power supply |
| HSP-IO-PSA-DI        | Integrated Redundant Dual AC Power Supplies                                        |
| HSP-IO-PSA-DM        | Modular Redundant Dual AC Power Supplies                                           |
| HSP-IO-Cable-AC-IN   | AC Power Cable, 1.5M (India Plug)                                                  |

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