

Vision Edge 400P (Model: Vision E400P)

NextGen High Density 32x400G Network Packet Broker

Cost-effective, fully featured network packet broker up to 400G speed



Product Description

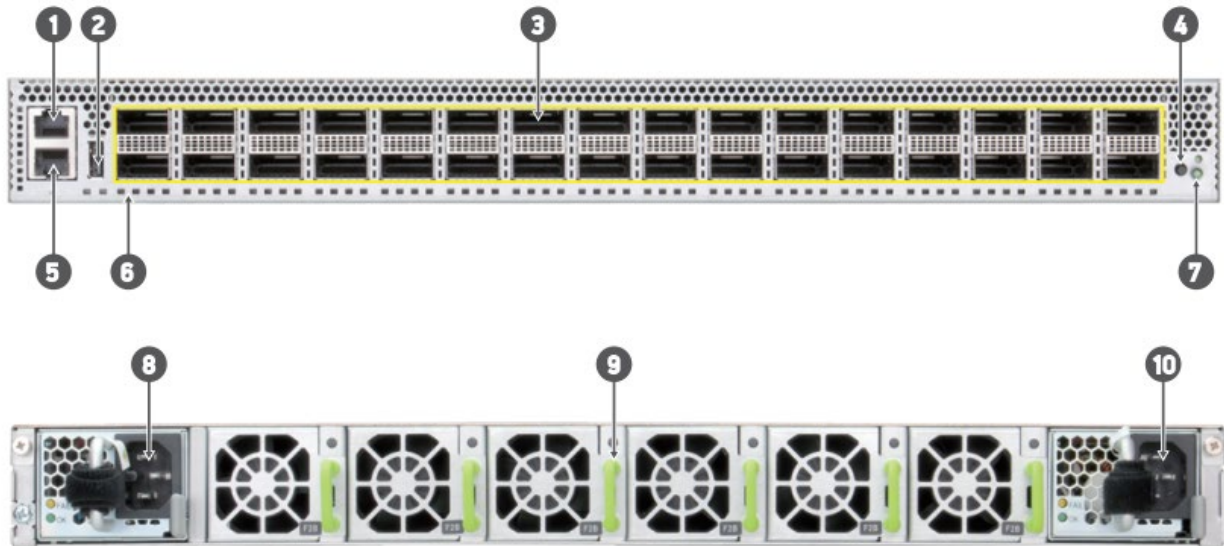
Keysight's Vision E400P is the next-generation network visibility solution with comprehensive feature sets to meet the ever-evolving visibility needs of your production network, for up to 400Gbps network speed. Highly compact and 1RU in size, Vision E400P front panel provides 32 QSFP-DD ports. Each QSFP-DD can break out to many smaller speed ports (200G, 100G, 40G, 50/25/10G) via fan-out cable.

Vision E400P supports advanced packet processing that includes advanced packet manipulation at line rate, such as advanced load balancing, header stripping (removing protocol encapsulations), deduplications (detecting and removing packet duplicates), header trimming (only sending first bytes of every packet), timestamping (adding timestamp field to packet), data masking (masking part of the packet), and tunneling.



Key Features

- **Space efficient 1RU design** saves rack space in your data center
- **High density 32x400G** QSFP-DD ports can be broken out to support multiple smaller speed ports (200G, 100G, 40G, 50/25/10G) using fan-out cables
- **Automated filter compiler** resolves overlap rules seamlessly, allowing quickest response to tool or filtering changes without worry of blind spots.
- **Header stripping, tunnel termination, Deduplication+, IP/MAC masking and timestamping** (PacketStack Plus) on all ports.
- **Supports up to 20 protocols** header stripping and tunnel termination including FabricPath, ETag, VNTag, GTP, LISP, MPLS L2VPN, MPLS L3VPN, MPLSoGRE, MPLSoUDP, Multilevel MPLS, VxLAN, GENEVE, L2GRE, L3GRE, IPinIP, or ERSPAN
- **Flexible L2GRE and VxLAN** tunnel origination. Up to 256 tunnels per chassis
- **Two banks** of load balance options, and load balancing on per port group basis
- **Load Balance** on both outer IP and tunneled inner IP. All well-known tunnel protocols are supported
- **GTP User Plane Load Balance** based on inner IP information (User sessions)
- **User session filtering** inside GTP User Plane tunnels (Explicit tunneled IPv4 and IPv6 filtering)
- Support **management port** IP allow-list
- **Secure serial console** port with authentication



Description









1. Console port	6. System LEDs
2. USB storage port	7. Breakout mode LEDs
3. 32 x 400 G QSFP-DD ports	8. PSU 2
4. Port LEDs breakout mode button	9. Hot-swappable 5 + 1 redundant fans
5. Management port	10. PSU 1

Product Capabilities

NetStack








Robust filtering, aggregation, replication and more – the gold standard for network traffic visibility.

The following traffic visibility capabilities combined as NetStack are the foundational set available as standard features for Keysight’s industry-leading network packet brokers.

Three Stages of Filtering 	Aggregation 	Intersection Mode Filtering 
Replication 	Priority Based Filtering 	Load Balancing 
Dynamic Filter Compiler 	Source Port Labeling (VLAN Tagging) 	

PacketStack PLUS

Perform advanced packet processing such as header (protocol) stripping, deduplication, data masking, timestamping, and GRE/VxLAN tunnel origination at all ports for all speeds.

Deduplication 	Protocol Header Stripping 	Packet Trimming (Slicing) 
Timestamping 	Data Masking 	Native Tunnel Termination 
L2GRE and VxLAN Tunnel Origination 		

Vision E400P features

	Feature
Physical	Space efficient 1RU design that saves rack space in your data center and supports 10/25/40/50/100/200/400G port speeds
	Front panel includes 32 QSFP-DD ports
	Industry only 400G NPB that supports all QSFP-DD speed permutations: 1x400G, 2x200G, (1,2,4)x100G, (4,8)x50G, (1,2)x40G, 8x25G, 8x10G
	Hot-swappable fans, power supplies
	Full-duplex, non-blocking, and line rate L2 forwarding of 12.8Tbps
Traffic Handling	Two banks of load balance options, and load balancing on per port group basis
	Per port group load balancing. Algorithms include session aware, asymmetric, weighted, tunneled packet type, and random
Traffic Handling	Load Balance on both outer IP and tunneled inner IP. All well-known tunnel protocols are supported
	GTP User Plane Load Balance based on inner IP information (User sessions)
	User session filtering inside GTP User Plane tunnels (Explicit tunneled IPv4 and IPv6 filtering)
	Flexible L2GRE and VxLAN tunnel origination. Up to 256 tunnels per chassis.
	Data masking allows hiding of IP addresses, or MAC rewrite
	All ports of all speeds support up to 20 protocols header striping, tunnel termination, masking and time stamping (PacketStack+)
	Silicon based Deduplication across all ports at line rate
Fix offset packet trimming or slicing	

Network Packet Broker Management

Keysight Vision Orchestrator

Keysight Vision Orchestrator (KVO) offers intent-based visibility for its users and its main goal is to provide a single pane of glass for Keysight visibility solutions, covering both physical and virtual world. KVO has two key components, element management and data path management. Key functional blocks of each component are listed below:

Element Management

- KVO User management - Single Sign On
- Granular Role and Resource Based Access Control
- Custom Dashboards and Reporting
- Event Management
- Software Upgrade Automation
- Centralized License Management

Data Path Management

- Cluster Management
- Intent-based Network Policies
- Policy Scheduler
- Self-healing Visibility Fabric
- Global Change Management
- Audit Trail of Changes
- Open API for fabric management

Keysight KVO



Keysight Vision Orchestrator can manage hundreds of visibility nodes in the Cloud, Data Center, or Edge. This enables organization to scale and operate their visibility solutions across their entire environment with the ease of intent-based policies.

Port Configuration

QSFP-DD front ports

Number of ports	32
QSFP-DD support	1 x 400G
	2 x 200G
	(1,2,4) x 100G
	(4,8) x 50G
	(1,2) x 40G
	8 x 25G
	8 x 10G

Product Specifications

General specifications

Airflow direction	Front to Rear	
MTBF (hours) at 25 °C	Base Chassis	200,000
Management	<ul style="list-style-type: none">• Intuitive Web GUI, TLS 1.2• SNMP v1, v2, v3 Requests, Inform Requests and Traps support• NTP timing synchronization• Local, RADIUS, TACACS+ and LDAP support (users and groups)• IP allowlist	<ul style="list-style-type: none">• Granular access control features• Event monitoring and logging• Syslog (cleartext or encrypted)• IT Automation control with RESTful API• IPv4, IPv6, static or DHCP• Secure serial console port with authentication

Physical specifications

Physical size (W x D x H)	(WxDxH): 440 x 507 x 44 mm (17.32 x 19.97 x 1.73 inch)	
Weight	10.005 kg (20.05 lb)	
Rack mountable	1 RU for 19" rack-mountable chassis	

Electrical specifications

Power AC	2 redundant hot swap AC power supplies	
Input voltage	100-240 VAC (x2), 50-60Hz	
Input current	Max. 9A @ 100 VAC	
Power DC¹	2 redundant hot swap power supplies	
Input voltage	Nom. 52-60 VDC (x2)	
Input current	Max. 20A	
Heat dissipation	Max. 800W / 2730 BTU/hour	

¹**Note:** Typical standoff voltage in DC deployment is 52-53VDC. 48V is the power provided by batteries upon a AC power failure/loss/brownout i.e. general power outage. The "Bel Power" DC power supply is designed to support the standoff voltage for nominal power, or power under charge 5260VDC range, but supports 44-72VDC power input MIN-MAX

Environmental specifications

Operating Temperature	5°C to 40°C	Short term ¹ : -5°C to 55°C
Operating Humidity	5% to 85% RH (non-condensing)	Short term ¹ : 5% to 90% RH (non-condensing)
Storage temperature	-40° to 70°C	
Storage Humidity	5 to 95%	
Operating Altitude	Up to 2000 m	
RoHS	RoHS Directive 2011/65/EU; Annex II, Directive (EU)2015/863 China RoHS	
WEEE	WEEE Directive 2012/19/EU	

¹ (not to exceed 96 consecutive hrs)

Compliance

Regulatory Type	Standard
Safety	EN IEC 62368-1
	UL 62368-1/CSA C22.2 No. 62368-1
EMC Emissions	CISPR 32, Class A, IEC 61000-3-2, IEC 61000-3-3
	EN 55032, Class A, EN 61000-3-2, EN 61000-3-3
	FCC Part 15B, Class A
	CAN ICES-003(A)/NMB-003(A)
	AS/NZS CISPR 32, Class A
	KS C 9832, Class A, KS C 9610-3-2, KS C 9610-3-3
	VCCI - CISPR 32, Class A
EMC Immunity	CISPR 35
	EN 55035
	KS C 9835
Country / Region Certifications	USA
	Canada
	EU
	UK
	Australia
	South Korea
	Japan
Country of Origin	USA, Taiwan

Order Information

Base Unit Vision E400P

Part Number	Description
SYS-VE400P-BASE-AC	Keysight Vision E400P, base AC system, includes chassis power supply and fan (991-0308)
SYS-VE400P-BASE-AC-T	Keysight TAA Compliant Vision E400P 32x400G QSFP-DD ports, base AC system, includes chassis, power supplies and fans. Hardware only (991-0309)
SYS-VE400P-BASE-DC	Keysight Vision E400P, base DC system 32x400G QSFP-DD ports, includes chassis, power supplies and fans. Hardware only (991-0319)
SYS-VE400P-BASE-DC-T	Keysight TAA Compliant Vision E400P 32x400G QSFP-DD ports, base DC system, includes chassis, power supplies and fans, Hardware only (991-0320)

Port Licenses Vision E400P

Part number	Description
LIC-VE400P-8PC	Keysight Vision E400P, 10/25/40/50/100G perpetual port license speed enabled on eight (8) QDD port (993-0398)
LIC-VE400P-8PCD	Keysight Vision E400P, 10/25/40/50/100/200/400G perpetual port license speed enabled on eight (8) QDD port (993-0499)
LIC-VE400P-8PCD-U	Keysight Vision E400P, license upgrade from 10/25/40/50/100G support to 10/25/40/50/100/200/400G on eight (8) QDD port (993-0400).

Feature Licenses Vision E400P

Part number	Description
LIC-VE400P-PSPL	Keysight Vision E400P. Fully featured PacketStack Plus features - deduplication is activated on 4 ports, all other features activated on every ports. Perpetual License (993-0437)
LIC-VE400P-MASK	Keysight Vision E400P. PacketStack Plus feature for fixed length masking, activated on every port. Perpetual license. (993-0402)
LIC-VE400P-STRP	Keysight Vision E400P. PacketStack Plus feature for header stripping and tunnel termination, activated on every port. Perpetual license (993-0403)
LIC-VE400P-TMSP	Keysight Vision E400P. PacketStack Plus feature for Timestamps NTP activated on every port. Perpetual license (993-0455)
LIC-VE400P-TUNL	Keysight Vision E400P. PacketStack Plus feature for L2GRE/VxLAN tunnel origination, activated on every port. Perpetual license (993-0407)
LIC-VE400P-DDUP-E	Keysight Vision E400P. PacketStack Plus feature for packet deduplication, activated on 4 ports. Perpetual license (993-0404)
LIC-VE400P-DDUP-U	Keysight Vision E400P. PacketStack+feature for packet deduplication, extend from 4 ports support only to full support on all ports (993-0453)
LIC-VE400P-TRIM	Keysight Vision E400P. PacketStack Plus feature for packet trimming, activated on every port. Perpetual license (993-0406)

Support Transceiver List

Keysight part	Speeds	Form Factor	Note
QDD-SR8-PAM4NRZ-XVR	400G	QSFP-DD	Break out only - no native 400G support
QSFP-DD-SR8-XCVR	400G	QSFP-DD	
QSFP-DD-LR4-XCVR	400G	QSFP-DD	
QSFP-DD-DR4-XCVR	400G	QSFP-DD	
QDD-DR4-PLUS-XCVR	400G	QSFP-DD	
QSFP-DD-FR4-XCVR	400G	QSFP-DD	
QSFP-DD-1M-CBL	400G	QSFP-DD	
QSFPDD-4XQ28-AEC-CBL	400G	QSFPDD-QSFP28	
QSFP28-DR1-XCVR	100G	QSFP28	
QSFP28-FR1-XCVR	100G	QSFP28	
QSFP28-SR4-XCVR	100G	QSFP28	
QSFP28-SR4-XCVR-T	100G	QSFP28	
QSFP28-LR4-XCVR	100G	QSFP28	
QSFP28-LR4-XCVR-T	100G	QSFP28	
QSFP28-BD-XCVR	100G	QSFP28	
QSFP28-BD-RX-XCVR	100G	QSFP28	
QSFP28-PSM4-XCVR	100G	QSFP28	
QSFP28-CWDM4-XCVR	100G	QSFP28	
QSFP-PLUS-SR4-XCVR	40G	QSFP-PLUS	
QSFP-PLUS-SR4-XCVR-T	40G	QSFP-PLUS	
QSFP-PLUS-LR4-XCVR	40G	QSFP-PLUS	
QSFP-PLUS-LR4-XCVR-T	40G	QSFP-PLUS	
QSFP-PLUS-BD-XCVR	40G	QSFP-PLUS	
QSFP-PLUS-BD-RX-XCVR	40G	QSFP-PLUS	
QSFP-PLUS-BD-RX-XCVR	40G	QSFP-PLUS	
QSFP-SR-CSCO-BD	40G	QSFP-PLUS	
QSFP-SR-CSCO-BD-RX	40G	QSFP-PLUS	

Support

Keysight's Visibility industry-best products are backed by our industry-leading expertise. Our comprehensive product support does more than ensure uptime – it ensures a competitive edge. The Ixia support team partners with customers to:

- Avoid downtime and keep schedules on track
- Implement according to industry specifications
- Develop best practices to meet individual needs and objectives
- Maximize efficiency and reduce operating expenses
- Protect and maximize investments in test and visibility

In addition to above, Keysight customers registering for the secure area and access to the Support Site will also be able to view and download our product Security Advisories.

About Keysight Visibility

Connect and Secure the World with Dynamic Network Intelligence

The need for always-on networks is pervasive, and expectations are high when it comes to keeping them connected and secure. As technologies advance, edge computing, cloud environments, sophisticated security threats, increasing bandwidth requirements, and demanding compliance regulations make it challenging to extract actionable insight from your network.

Keysight can help. Customers rely on our solutions to deliver rich data about network traffic, applications, and users across any networking environment. This deep insight is what we call dynamic network intelligence. It helps you continuously innovate, meet aggressive service level agreements, and keep applications running smoothly and securely.



For more information on Keysight products, applications & services, please contact
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Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences.

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