



# PULSensor Appliance 3000

Data Sheet



## Highlights

- Highly accurate and ultra-powerful, scales up to 10000 test targets without compromise
- ▽ Optimized architecture for ultimate performance with hardware timestamping precision
- Attractive cost-benefit ratio removing operational barriers to minimize TCO
- 10 expansion module for flexible upgrades to 10G networking

## Precision and Power without Compromise

CreaNODE 3000 Advanced Probe is an active measurement power house. It brings enough raw measurement power under your control to change the dynamics of network monitoring.

You can not only sweep extensive networks, but also perform granular measurements with unparalleled cost efficiency ratio. Thanks to its precision, power and scalability, the CreaNODE 3000 easily outperforms other solutions on the market. There is no longer any need to compromise measurement quality for cost, thanks to one unit scaling to massive numbers of test targets – without having to give up accuracy.

## Features

- Ultra-Performance Ethernet, IP and TCP network measurement probe
- Perfect for cost-optimized Mobile Backhaul, Business WAN and Data Center monitoring
- Hardware Timestamp Engine for 1 microsecond accuracy
- Complete set of one-way and two-way measurements
- Advanced multi-vendor compatible active loopback measurements: TWAMP, UDP Echo and Y.1731
- Y.1564 Service Activation Testing
- Supercharged RFC 6349 TCP L4-L7 measurements
- eXtended SNMP with distributed collection
- Expansion Slot for 10G Interface Modules
- Full interworking with CreaNODE 500 Mini Probe and CreaSFPs for flexible topology and absolute precision
- Seamlessly integrated with EchoVault Performance Management and SLA Reporting
- CreaSFPs for flexible topology and absolute precision

## Measurements

	(KPIs)	Unique features	Main application
NetPrecision	One-way delay, One-way delay Variation, One-way loss	1us accurate one-way KPIs (probeprobe), Test Topology Designer	E2E Access, Async networks, mesh
TWAMP	Delay, Delay Variation, Loss	1us accuracy, Peak-to-peak IPDV, custom percentiles	Continuous centralized monitoring
UDP Echo	Delay, Delay Variation, Loss	1us accuracy, Peak-to-peak IPDV, custom percentiles	Continuous centralized monitoring
Y.1731-LB	Delay, Delay Variation, Loss	1us accuracy	Continuous centralized monitoring
ICMP	Delay, Delay Variation, Loss	Percentiles	Ubiquitous monitoring
RFC 2544	Bandwidth, TD, DV, Loss	1us accurate timestamping	SAT, Troubleshooting
Y.1564	Bandwidth, TD, DV, Loss, Availability	1us accurate timestamping	SAT, Troubleshooting
TrueTCP	TCP Throughput, Transfer Time Ratio, Buffer Delay	1 000 000+ connections	L4-L7 monitoring, application layer monitoring
TCP Connect	DNS resolution time, TCP connect	1000 targets per measurement	Application layer monitoring
SNMP Collection	Delay, Loss, Bandwidth, Capacity, etc	Distributable and flexible	Passive SNMP collection

## Standards

Standard	
RFC 5357	TWAMP Control Client
RFC 5357	TWAMP Appendix 1 "TWAMP light"

RFC 6349	TCP Throughput
ITU-T Y.1564	Service Activation Testing
ITU-T Y.1731/802.1ag	ETH-LB, Y.1731 DM, SLM
RFC 862	UDP Echo
RFC 792	Internet Control Message Protocol (ICMP)
IEEE 1588v2	Precision Time Protocol (PTP)
RFC 958	Network Time Protocol (NTP)
RFC 2544	Network Benchmarking
RFC 2865	RADIUS Authentication
RFC 4511	LDAP Authentication

## Specifications

Interfaces	Architecture	Dimensions
2 x RJ45 GigE Test Interface (Copper)	Quad-Core Intel® Xeon® CPU	H: 44 mm; W: 426 mm; D: 355 mm;
2 x SFP GigE Test Interface (Copper and Fiber SFPs)	8 GB RAM, 32GB Solid State Memory	Expansion slot max D: +175mm (Total D: 530mm)
2 x RJ45 GigE Management Interface (Copper)	Hardware Timestamp Engine on Test Ports	Weight 4.2 kg
Supported SFPs: MM, SM, SFS, CWDM, DWDM, Copper	Performance: 10k Test Targets	
1 x RS232 (RJ45) Console, 2 x USB	Expansion Slot for additional Interface Modules (4 x 10GE module available)	

Module	Part #	Description
CreaNODE 3000	CN3K6300	Advanced Probe, 2 x 10/100/1000BaseT RJ45 Test Ports, 2 x SFP Test Ports, 2x10/100/1000BaseT RJ45 Management Ports, internal AC/DC (100-240VAC) power supply
CreaNODE 3000/D	CN3K6301	Advanced Probe, 2 x 10/100/1000BaseT RJ45 Test Ports, 2 x SFP Test Ports, 2x10/100/1000Base TRJ45 Management Ports, internal DC (-48VDC) power supply
10G Expansion Module	CN3K-TH10G4	10G Expansion Slot, 4 x SFP+ Test Ports, Field serviceable

## 10G Expansion Module



*Figure 1 Installed and connected 10G Expansion Module*

The 10G optional expansion module offers flexible upgrades to 10G networking. It comes with four 10G test ports and is field serviceable.