






Comparison: PSA-3000, PSL-3424, PSL-3000

IEEE 802.3at & 802.3bt Power over Ethernet

Shared Features – Common to All Instruments

- Emulate Any 802.3at or 802.3bt PD
- One-Click / One-Command Emulated PD Power-Ups
- Continuous 4-Pair Loading > 99 Watts
- Continuous 2-Pair Loading > 47 Watts
- Option for 802.3 PoE LLDP Emulation & Analysis¹
- PSA Interactive Graphical User Interface
- PowerShell PSA Automation Scripting
- Certified Commercial Test Equipment (CSA, CE, FCC)

PSA-3000 / PSL-3424 / PSL-3000 Comparison

PSA-3000	PSL-3424	PSL-3000
		
Hardware Configuration		
Test Ports		
Configure 2 to 24 ports (2 per slot) supporting 2 to 24 PSE port connections Test one 2-Pair PSE per port Test one 4-Pair PSE <u>per slot</u> from either port	Fixed: 24 ports Test one 4-Pair or 2-Pair PSE <u>per test port</u>	Same as PSA-3000
LLDP Emulation & Analysis		
License option to all instruments	Included with PSL-3424L	License option to all instruments
Automated Test Suites		
License Optioned Test Suites		
2-Pair PSE Conformance Test 4-Pair PSE Conformance Test Multi-Port 2 Live PD Emulation: Class 0-4 Power Management Analyzer Suite for 2-Pair PSE's (<i>complete version</i>)	PSL34 2/4-Pair Quick Inspection Test and Snaked Data Path with PoE Loading Multi-Port 2 Live PD Emulation: Class 0-8 (including hybrid 2-Pair, 4-Pair) Power Management Analyzer Suite for 2-Pair, 4-Pair, and hybrid 2/4 Pair PSE's	2-Pair Live PD Emulation: Class 0-4 Power Management Analyzer Suite for 2-Pair PSE's (<i>limited version</i>)
No-Cost Automated Tests		
PSA 2-Pair Quick Inspection Test PoE Service Analyzer Test		PSL 2-Pair Quick Inspection Test
Interactive Test & Troubleshoot		
PD Signatures		
Detection: 9KΩ - 39KΩ (1KΩ Step) parallel with 0.1, 5, 7, or 11 μF	Detection: 14KΩ, 20KΩ, 24KΩ, or 33KΩ parallel with 0.1 μF	Same as PSA-3000
Static Class: 0 - 100mA (0.25mA Step) Multi-Event: 0 - 60mA / Event (5 Events)	Multi-Event Class: Class 0 – 8, 802.3bt Dual Class 1 – 5, 4-Pair Dual Class 4	Static Class: 0 - 100mA (1mA Step) Multi-Event: 0 - 60mA / Event (5 Events)
Mark Load: 0-6mA (0.25mA Step)	Mark Load: 2mA	Mark Load: 0-6mA (1mA Step)
Static Loading		
0 – 950mA / pairset (Alt) (0.25mA Step)	0 – 975mA per pairset (Alt) (1mA Step)	0 – 950mA / pairset (Alt) (1mA Step)
Dynamic Loading		
2-Step Transient: Step 1: 0 - 1950mA, 0.2 - 1000msec Step 2: 0 - 950mA, 0.2 - 1000msec Transient Trigger: Immediate, Edge, Event ² Foldback Suppression Option	1-Step Transient: 0 - 975mA, 5.5msec, 45msec, or 100msec Transient Trigger: Immediate, Event ²	Not Available

Interactive Test & Troubleshoot		
Measurements		
Voltage and Current: Average, Max Peak, Min Peak, Waveform Trace Aperture: 10msec - 10sec (1-2-5) Trigger: Immediate, Edge, Event ²	Voltage and Current: Average, Max Peak, Min Peak, Aperture: 100msec, 1sec Trigger: Immediate, Event ²	Voltage and Current: Average Aperture: 100msec, 1sec Trigger: Immediate
Power: Average (Same Apertures) Trigger: Immediate	Power: Average (Same Apertures) Trigger: Immediate	Power: Average (Same Apertures) Trigger: Immediate
AC Pk-Pk Voltage: Aperture: 2sec, 5sec Bands: Low, High, Wide Trigger: Immediate	AC Pk-Pk Voltage: <i>Not Available</i>	AC Pk-Pk Voltage: <i>Not Available</i>
Time Interval: Start Trigger: Edge, Event Stop Trigger: Edge Scales: μ sec, msec, sec	Time Interval: <i>Not Available</i>	Time Interval: <i>Not Available</i>
One-Click Diagnostic Waveforms		
PD Emulations: Class 0-8, Dual Class 1-5 LLDP with max request ¹	<i>Not Available</i>	<i>Not Available</i>
Detect Invalid High, Low, Cap signatures (V)		
4-Pair Connection Check (V)		
Classification (V, 2-Pr I, 4-Pr I)		
Power-Up (V, 2-Pr I, 4-Pr I)		
Inrush Response (V, 2-Pr I, 4-Pr I)		
Peak Transient (V, 2-Pr I)		
Overload (V, 2-Pr I, 4-Pr I)		
Short Circuit Ilim (V, 2-Pr I, 4-Pr I)		
Low Power MPS (V, 2-Pr I)		
PD Disconnect (V, 2-Pr I, 4-Pr I)		
Error Delay (V, 2-Pr I, 4-Pr I)		
Snaked Data Path Traffic Testing		
Connections: External Patch Cables Between PSA THRU ports	Connections: Internally Switched from Port 1 to 2, Port 3 to 4, Port 5 to 6, etc.	<i>Same as PSA-3000</i>
Data Path Coupling: Passive	Data Path Coupling: Passive	
Link Rates: 10/100/1000/2.5G/5G/10G ³	Link Rates: 10/100/1000/2.5G/5G/10G	
Software: <i>Not Available</i>	Software: Graphical User Interface to configure loops, verify connects, define virtual PD's, and monitor powering (<i>optional</i>)	
App Note: Chained Data Path Testing in a PSE with PSA-3000 & PSL-3000	App Note: Chained Data Path Testing in a PSE with PSL-3424	
Documentation		
Datasheets		
PowerSync Analyzer 3000 Overview PowerSync Analyzer 3402 Overview PSE 2-Pair Conformance Test Suite Overview PSE 4-Pair Conformance Test Suite Overview PSE Live PD Emulation for PSA,PSL-3000 Overview PSE PM Analyzer Suite for PSA,PSL-3000 Overview	PSL-3424 Product Overview PSE Live PD Emulation for PSL-3424 Overview PSE PM Analyzer Suite for PSL-3424 Overview (<i>Q2, 2024</i>)	PSL-3000 Product Overview PSE Live PD Emulation for PSA,PSL- 3000 Overview PSE PM Analyzer Suite for PSA,PSL- 3000 Overview
Reference Manuals		
PSA-3000 Technical Reference Manual v5	PSL-3424 Technical Reference Manual v5	PSL-3000 Technical Reference Manual v5

Notes:

- 1 LLDP Emulation & Analysis includes IEEE 802.3at and 802.3bt emulation of PD Classes 0-8 and Dual Classes 1-5. Features include power-up negotiations and standard protocol traces of Power-Ups and Power Re-Negotiations including analysis of protocol content and message timing.
- 2 Event Triggers synchronize actions across multiple ports and also synchronize actions with events such as PD connection, load change, etc.
- 3 5G and 10G link rates restricted to short length (e.g. 1M) Cat 6A patch cables