

## Gigabit Ethernet NID

(1) Serial Port + (1) TDM Port + (3) 10/100/1000Base-T RJ-45 Ports + (2) 100/1000Base-X SFP Slots



### Features

- Multi-standard TDM pseudowire support: CESoPSN, SATOP, TDM over IP
  - Highly accurate & stable clock recovery exceeding G.823/G.824
  - Fan-less design
  - Optional MPLS-TP support
  - IPv6 & IPv4 support
  - VLAN (802.1Q) Q-in-Q (C-Tag / S-Tag)
  - RMON & Syslog
  - OAM Support: IEEE 802.3ah Link OAM, IEEE 802.1ag Service OAM & ITU-T Y.1731 Performance Monitoring
  - RFC-2544 & ITU-T Y.1564 Traffic Generation & Reports
  - IEEE 1588v2 (ptp)
  - Protection: ITU-T G.8032/G.8031 IEEE RSTP, MSTP, LACP, Logical Link Forwarding
  - RFC-5086 - Structure-Aware Time Division Multiplexed (TDM) Circuit Emulation Service over Packet Switched Network (CESoPSN).
  - RFC-4553 - Structure-Agnostic Time Division Multiplexing (TDM) over Packet (SAToP)
  - Optional Sync-E capability
  - Zero Touch Configuration Capability
  - Zero Touch Provisioning
  - Jumbo Frame Support (10K)
  - Wire speed loopbacks
- ### Software Features
- MEF 2.0 E-LINE (EPL & EVPL) E-LAN (EP-LAN & EVP-LAN) E-ACCESS (ACCESS EPL & EVPL)
  - UNI or NNI configuration
  - TOS/Diffserv
  - Quality of Service (IEEE 802.1p): 8 queues; strict priority & WRR, shaping, policing, P-bit & DSCP

### Specifications

Standards	IEEE 802.3	IEEE 802.3u
	IEEE 802.3z	IEEE 802.3ab
Ports	IEEE 802.3x	IEEE 802.3ad
	IEEE 802.1p	IEEE 802.1Q
	IEEE 802.1w	IEEE 802.1s
	IEEE 802.1x	IEEE 802.1AB
	IEEE 802.3ah	IEEE 802.1ag
	RFC 2544 / ITU-T Y.1564	
	ITU-T Y.1731	
	ITU-T G.8032/G.8031	
	RFC-4553	
	IEEE 1588-2008 (v2) (ptp)	
	RFC-5086	
	ITU-T G.703/G.704	
	ITU-T G.823/G.824	
	(3) 10/100/1000Mbps Base-T ports	
	(2) 100/1000Mbps or SGMII SFP slots	
(1) RS530 / RS232 Serial port		
(1) USB / RJ-45 Console Management port		
(1) T1/E1 TDM port		
E1:	120 Ohm (75 Ohm via cable), ITU G.703 / ITU G.704, CRC4 / non-CRC4, HDB3	
T1:	100 Ohm, 1.544 Mbps unframed, 1.536 Mbps framed CCS, ESF or DS4 Selectable, B8Z5 or AMI selectable	
Advanced Timing	Oscillator hold-over 24hrs 4ppb (typical) Temperature stability 14ppb (over normal temperature operating range)	
Dimensions	Width: 7.48" [190 mm] Depth: 8.54" [217 mm] Height: 1.71" [43.5 mm]	
Power Input	AC: 100-240 VAC; 50-63Hz Auto-sensing DC: -19 to -57VDC	
Power Consumption	15 Watts (max)	
Environment	Operating: -20°C to +55°C Storage: -40°C to +70°C Humidity: 5% to 85% (non-condensing)	
Weight	2.2 lbs. [1 kg]	
Certifications	CE	
Warranty	1 Year	

### Software Features Continued

- Management via CLI, Web, SSH/SSL & SNMP (v1, v2c & v3) via any Ethernet or USB port
- Port configuration, status, statistics & monitoring
- RADIUS, TACACS+ & ACL
- Remote backup / restore configuration
- Remote firmware upgrades
- Alarms via Syslog & SNMP
- Remote loopbacks
- L2CP
- LLDP
- LLF
- Link Aggregation Control Protocol (LACP)
- Dying/Last Gasp
- Port Mirroring
- IGMP Snooping
- Optional BERT test set functionality via software update

### Ordering Information

#### LIB-225-AC

(1) Serial port + (1) T1/E1 TDM port  
+ (3) 10/100/1000Base-T ports  
+ (2) 100/1000Base-X SFP slots (empty)  
with AC Power Supply

#### LIB-225-DC

(1) Serial port + (1) T1/E1 TDM port  
+ (3) 10/100/1000Base-T ports  
+ (2) 100/1000Base-X SFP slots (empty)  
with DC Power Supply

#### Optional Accessories (sold separately)

##### SFP Modules

#### Cabling Options (sold separately)

##### SERIAL-RS232-DCE

Smart serial to (25-way female connector)  
RS232 DCE

##### SERIAL-RS530-DCE

Smart serial to RS530 (25-way female connector) DTE

##### SERIAL-V35-DCE

Smart serial to V.35 (female connector) DTE

##### SERIAL-X21-DCE

Smart serial to X.21/V.11 (15-way female connector) DTE

##### SERIAL-RS232-DTE

Smart serial to RS232 (25-way female connector) DTE

##### SERIAL-RS530-DTE

Smart serial to RS530 (25-way female connector) DTE

##### SERIAL-V35-DTE

Smart serial to V.35 (male connector) DTE

##### SERIAL-X21-DTE

Smart serial to X.21/V.11 (15-way male connector) DTE

#### Power Cord Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: LIB-304-NA  
**-NA = Country Code**  
 -NA = North America, -LA = Latin America, -EU = Europe,  
 -UK = United Kingdom -SA = South Africa, -OZ = Australia -BR = Brazil