



LoadMaster™  
Hardware Datasheet



# Scalable high-performance application delivery

Kemp LoadMaster hardware load balancers offer the scalability, feature depth and security required to enable resilient delivery of a wide range of application workloads for organizations of all sizes and capabilities. LoadMaster simplifies application delivery with easy management via web UI, API and Kemp 360 Central with a compelling TCO and outstanding customer support.

## The Benefits of Kemp LoadMaster

### Resilient

LoadMaster can enhance application availability and resilience with the option for Highly Available (HA) pairing of appliances and geographic server load balancing (GSLB) removing single points of failure in the data center and also across data centers. Application server health checks enable redirection of traffic to healthy servers and the optional Kemp 360 Vision service provides 24/7 proactive support to ensure continuous application availability.

### Secure

As the access point for applications, LoadMaster provides authentication and attack mitigation services to prevent malicious and unauthorized access to application resources. The Edge Security Pack (ESP) enables pre-authentication of clients (LDAP, Active Directory, RADIUS and SAML) while the Web Application Firewall (WAF) offers continuous application level protection through daily rule updates.

### Easily Managed

LoadMaster appliances can be managed via the intuitive web UI, via API (PowerShell/RESTful) or via Kemp 360 Central. Application templates simplify deployment and optimization, while the API provides an easy way to automate configuration and management tasks whether through DevOps toolsets or operational frameworks.

### Scalable

As application delivery demands grow, LoadMaster can scale by clustering multiple appliances together into a single load balancer entity. As well as scaling to meet increasing capacity requirements, clustering also provides resilience as the failure of a cluster member is gracefully handled with remaining members continuing to provide service.

### Low Cost of Ownership

LoadMaster delivers performance and functionality at a compelling price point when measured against the key metrics of SSL transactions per second, application throughput and active connections. Coupled with the low operational overheads delivered by features such as application templates and our world class customer support services, organizations can achieve significant TCO reductions on application delivery.

### Fully Featured

LoadMaster includes a comprehensive set of features to enable deployment of application delivery and interfaces and API to integrate with existing authentication, logging, management and provisioning systems.

## Support Subscriptions

LoadMaster support subscriptions offer flexibility, simplicity and value to meet your application delivery requirements and challenges. Support subscriptions are annual and can be upgraded and downgraded as application delivery demands change for maximum flexibility. The tiers are mapped to common customer challenges and requirements, simplifying the task of selecting the appropriate feature set and support levels. This also offers additional value of up to 40% when compared to individually selecting features.

### LoadMaster Support Subscription Tiers

Each subscription tier adds to the features and services delivered by lower tiers as follows:

STANDARD SUPPORT	ENTERPRISE SUPPORT	ENTERPRISE PLUS SUPPORT
10x5 Customer Support	24x7 Customer Support	24x7 Customer Support
Software Updates	Software Updates	Software Updates
Security Patches	Security Patches	Security Patches
L4-L7 Application Delivery	L4-L7 Application Delivery	L4-L7 Application Delivery
	Edge Security Pack	Edge Security Pack
	Intrusion Prevention	Intrusion Prevention
	Kemp 360 Vision - managed service for application monitoring & preemptive alerting	Kemp 360 Vision - managed service for application monitoring & preemptive alerting
	Kemp 360 Central - centralized management & orchestration software	Kemp 360 Central - centralized management & orchestration software
		Web Application Firewall (WAF) with rule updates
		GSLB with IP Reputation
		Floating License

## Features

### L4-L7 Application Delivery

#### General

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- Server Load Balancing (SLB) for TCP/UDP based protocols
- TLS (SSL) Offload
- Layer 7 Content Switching
- Transparent caching for HTTP/HTTPS
- Compression of static and dynamic HTTP/HTTPS content
- HTTP/2 Support
- Up to 1000 Virtual and 1000 Real Servers
- NAT-based forwarding
- Support for Direct Server Return (DSR) configurations
- Configurable S-NAT support
- VLAN Trunking (802.1Q)
- Link interface bonding (802.3ad)
- IPv6 support for addressing and features
- IPv6 - IPv4 bidirectional conversion

#### Health Checking

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- Aggregated health checks
- ICMP health checking
- Layer 7 checking against any target server port
- Active/Hot Standby configurations for High Availability
- Stateful Failover
- Scale-out Clustering
- Aggregated health checks

#### Session Persistence

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- Source IP (L4)
- TLS (SSL) SessionID (L4)
- HTTP/HTTPS Browser-session (L7)
- HTTP/HTTPS WebClient-session (L7)
- RDP Login ID (L7)
- Port Following for mixed HTTP/HTTPS sessions
- Session reconnection for Microsoft RDS

#### Scheduling and Balancing Methods

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- SDN Adaptive
- Round Robin
- Weighted Round Robin

- Least Connection
- Weighted Least Connection
- Agent-based Adaptive
- Chained Failover (Fixed Weighting)
- Source-IP Hash
- Layer 7 Content Switching
- Global Server Load Balancing (GSLB)
- AD Group based traffic steering

#### SSL/TLS Features

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- Configurable TLS (1.0, 1.1, 1.2, 1.3) and SSL (2.0, 3.0)
- Support for EV (Extended Validation) certificates
- OCSP certificate validation
- Server Name Identification (SNI) support
- Support for up to 1,000 TLS (SSL) certificates
- Automated TLS (SSL) certificate chaining
- Certificate Signing Request (CSR) generation
- FIPS 140-2 Level 1
- STARTTLS mail protocols (POP3, SMTP, IMAP)

#### Administration

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- Change auditing
- Web User Interface (WUI)
- SSH & physical console
- RESTful and PowerShell APIs
- VMware vRealize Orchestrator
- Context based help (WUI)
- Real time display of performance and availability
- Application templates
- Remote syslogd support
- Automated configuration backup
- Selective restore of configuration
- Connection draining
- Comprehensive logging and reporting
- SNMP support
- Diagnostic shell with in-line tcpdump

#### Security

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- Permit /Deny Access Control Lists
- IP address filtering
- IPsec Tunnel support
- DDoS mitigation, including L7 rate-based attacks
- IPsec VPN to Azure, AWS and public clouds
- Authenticated NTP

## Features

### Kemp 360 Central

- Centralized management and orchestration
- Included with Enterprise support subscription, and Enterprise Plus support subscription
- LoadMaster configuration management
- Automated LoadMaster backups
- Centralized & scheduled firmware updates
- LoadMaster logfile consolidation
- Performance management
- 3<sup>rd</sup> party load balancer support

### Kemp 360 Vision

- Managed service for application monitoring & preemptive alerting
- Included with Enterprise support subscription, and Enterprise Plus support subscription
- 24/7 automated issue escalation service
- Proactive issue management
- Integrated with Kemp Support ticketing

### Edge Security Pack

- Microsoft TMG replacement
- Pre-authentication
- Multi-domain authentication & SSO
- X.509 client certificate authentication
- Custom login forms
- Two-factor authentication
- SAML, Active Directory, RADIUS & LDAP
- Forms to Forms based authentication

### Intrusion Prevention

- Snort compatible IPS
- Permit/Deny IP by address
- Automated IP reputation updates for GSLB

### Web Application Firewall (WAF)

- Real-time application threat mitigation
- Daily rule updates
- Threats mitigated
  - Cookie tampering
  - Cross site request forgery
  - Cross site scripting
  - Data loss prevention
  - SQL injection
  - PCI-DSS Section 6.6 compliance

### Global Server Load Balancing (GSLB)

#### Scheduling and Balancing

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- Round Robin
- Weighted Round Robin
- Chained Failover (Fixed Weighting)
- Regional
- Real Server Load
- Location Based

#### Security

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- Black List (Access Control List)
- IP reputation filtering with automatic updates
- DDoS mitigation

#### Health Checking & Failover

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- ICMP health checking of server farm machines
- Layer 4 TCP checking
- HTTP/HTTPS health check
- Active/Active High Availability

## Specifications

	LM-X1	LM-X3
<b>Support Subscription Tiers</b>	Standard and Enterprise	All
<b>Performance</b>		
Application throughput (Layer 4)	1 Gbps	3.6 Gbps
Application throughput (Layer 7)	1 Gbps	3.4 Gbps
Bulk Encryption	1 Gbps	2 Gbps
SSL TPS (2K Keys)	1,000	1,700
Concurrent Layer 4 Connections	4,000,000	8,600,000
Concurrent Layer 7 Connections	32,800	125,000
Layer 7 HTTP requests/sec	70,000	180,000
Layer 4 requests/sec	78,000	260,000
Layer 4 connections/sec	25,000	75,000
<b>Hardware Platform</b>		
CPU	Intel ATOM C3558 @ 2.2GHz, 4C/2T	Intel Pentium G440 @3.3GHz, 2C/2T
Memory (RAM Size)	4GB	8GB
Storage	500GB HDD	500GB HDD
Hardware SSL Acceleration	No	No
Gigabit Ethernet Ports	4	8
10 Gigabit Ports (SFP+)	N/A	N/A
VGA Ports	1	1
Console Ports	1 RJ45	1 RJ45
Rack Size	1U	1U
Dimensions	430 x 310 x 44mm (16.9 x 12.2 x 1.7 in)	430 x 300 x 44mm (16.9 x 11.81 x 1.7 in)
Weight	8.31lbs / 3.77kg	17.63lbs / 8kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)	30,000 feet (9,144 meters)
Input Voltage and Frequency Ranges	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	No	No
Max power supply (W)	65	300
Average Power Consumption (W)	28.44	125.4
Total Amp Drawn (A)	0.54 Max	2.5 Max
Heat Output (BTU)	96.9 Max	427.6 Max
Acoustic Noise (dB)	50.7	59.4

## Specifications

	LM-X15	LM-X25
<b>Support Subscription Tiers</b>	All	All
<b>Performance</b>		
Application throughput (Layer 4)	15.8 Gbps	26.2 Gbps
Application throughput (Layer 7)	15 Gbps	25 Gbps
Bulk Encryption	8 Gbps	20 Gbps
SSL TPS (2K Keys)	12,000	20,000
Concurrent Layer 4 Connections	35,000,000	75,800,000
Concurrent Layer 7 Connections	262,500	525,000
Layer 7 HTTP requests/sec	800,000	1,000,000
Layer 4 requests/sec	1,600,000	2,000,000
Layer 4 connections/sec	450,000	675,000
<b>Hardware Platform</b>		
CPU	Intel Xeon E3-1275 @ 3.8GHz, 4C/8T	2x Intel Xeon 4116 Silver @2.1GHz, 12C/24T
Memory (RAM Size)	32GB	64GB
Storage	2 x 500GB HDD (RAID 1)	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	Yes	Yes
Gigabit Ethernet Ports	16	2
10 Gigabit Ports (SFP+)	4	12
VGA Ports	1	1
Console Ports	1 RJ45	1 RJ45
Rack Size	1U	2U
Dimensions	430 x 480 x 44mm (16.9 x 18.8 x 1.7 in)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	26.01lbs / 11.8kg	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)	30,000 feet (9,144 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes	Yes
Max power supply (W)	2 x 450	2 x 700
Average Power Consumption (W)	165.27	479.6
Total Amp Drawn (A)	3.75 Max	5.8 Max
Heat Output (BTU)	563.57 Max	1635.5 Max
Acoustic Noise (dB)	62.7	71.4

## Specifications

	LM-X40	LM-X40M
<b>Support Subscription Tiers</b>	All	All
<b>Performance</b>		
Application throughput (Layer 4)	42.2 Gbps	42.2 Gbps
Application throughput (Layer 7)	40 Gbps	40 Gbps
Bulk Encryption	20 Gbps	20 Gbps
SSL TPS (2K Keys)	35,000	35,000
Concurrent Layer 4 Connections	75,800,000	300,000,000
Concurrent Layer 7 Connections	525,000	3,000,000
Layer 7 HTTP requests/sec	1,250,000	1,250,000
Layer 4 requests/sec	2,600,000	2,600,000
Layer 4 connections/sec	825,000	825,000
<b>Hardware Platform</b>		
CPU	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T
Memory (RAM Size)	64GB	256GB
Storage	2 x 1TB HDD (RAID 1)	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	Yes	Yes
Gigabit Ethernet Ports	2	2
10 Gigabit Ports (SFP+)	12	12
VGA Ports	1	1
Console Ports	1 RJ45	1 RJ45
Rack Size	2U	2U
Dimensions (with Bezel)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	35.2lbs / 16kg	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)	30,000 feet (9,144 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes	Yes
Max power supply (W)	2 x 700	2 x 700
Average Power Consumption (W)	479.6	479.6
Total Amp Drawn (A)	5.8 Max	5.8 Max
Heat Output (BTU)	1635.5 Max	1635.5 Max
Acoustic Noise (dB)	71.4	71.4



## Specifications

	LM-XHC-25G	LM-XHC-40G
<b>Support Subscription Tiers</b>	All	All
<b>Performance</b>		
Application throughput (Layer 4)	57 Gbps	77 Gbps
Application throughput (Layer 7)	55 Gbps	75 Gbps
Bulk Encryption	25 Gbps	25 Gbps
SSL TPS (2K Keys)	40,000	40,000
Concurrent Layer 4 Connections	75,800,000	75,800,000
Concurrent Layer 7 Connections	525,000	525,000
Layer 7 HTTP requests/sec	1,250,000	1,250,000
Layer 4 requests/sec	2,600,000	2,600,000
Layer 4 connections/sec	825,000	825,000
<b>Hardware Platform</b>		
CPU	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T
Memory (RAM Size)	64GB	64GB
Storage	2 x 1TB HDD (RAID 1)	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	Yes	Yes
Gigabit Ethernet Ports	2	2
10 Gigabit Ports (SFP+)	8	8
25 Gigabit Ports (SFP28)	4	0
40 Gigabit Ports (QSFP+)	0	4
100 Gigabit Ports (QSFP28)	0	0
VGA Ports	1	1
Console Ports	1 RJ45	1 RJ45
Rack Size	2U	2U
Dimensions (with Bezel)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	35.2lbs / 16kg	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)	30,000 feet (9,144 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes	Yes
Max power supply (W)	2 x 700	2 x 700
Average Power Consumption (W)	479.6	479.6
Total Amp Drawn (A)	5.8 Max	5.8 Max
Heat Output (BTU)	1635.5 Max	1635.5 Max
Acoustic Noise (dB)	71.4	71.4

## Specifications

### LM-XHC-100G

<b>Support Subscription Tiers</b>	All
<b>Performance</b>	
Application throughput (Layer 4)	91 Gbps
Application throughput (Layer 7)	90 Gbps
Bulk Encryption	25 Gbps
SSL TPS (2K Keys)	40,000
Concurrent Layer 4 Connections	75,800,000
Concurrent Layer 7 Connections	525,000
Layer 7 HTTP requests/sec	1,250,000
Layer 4 requests/sec	2,600,000
Layer 4 connections/sec	825,000
<b>Hardware Platform</b>	
CPU	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T
Memory (RAM Size)	64GB
Storage	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	Yes
Gigabit Ethernet Ports	2
10 Gigabit Ports (SFP+)	8
25 Gigabit Ports (SFP28)	0
40 Gigabit Ports (QSFP+)	0
100 Gigabit Ports (QSFP28)	2
VGA Ports	1
Console Ports	1 RJ45
Rack Size	2U
Dimensions (with Bezel)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes
Max power supply (W)	2 x 700
Average Power Consumption (W)	479.6
Total Amp Drawn (A)	5.8 Max
Heat Output (BTU)	1635.5 Max
Acoustic Noise (dB)	71.4

## Specifications – Multi-Tenant Platforms

	LM-X15-MT	LM-X25-MT
<b>Support Subscription Tiers</b>	All	All
<b>Performance</b>		
Application throughput (Layer 4)	5.2 Gbps	8.2 Gbps
Application throughput (Layer 7)	5.0 Gbps	8.0 Gbps
Bulk Encryption	3.0 Gbps	3.0 Gbps
SSL TPS (2K Keys)	4,000	4,000
Recommended Tenants	4	8
Maximum Tenants	16	16
Concurrent Layer 4 Connections	35,000,000	75,800,000
Layer 4 requests/sec	400,000	400,000
<b>Hardware Platform</b>		
CPU	Intel Xeon E3-1275 @ 3.8GHz, 4C/8T	2x Intel Xeon 4116 Silver @2.1GHz, 12C/24T
Memory (RAM Size)	32GB	64GB
Storage	2 x 500GB HDD (RAID 1)	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	No	No
Gigabit Ethernet Ports	16	2
10 Gigabit Ports (SFP+)	4	12
VGA Ports	1	1
Console Ports	1 RJ45	1 RJ45
Rack Size	1U	2U
Dimensions	430 x 480 x 44mm (16.9 x 18.8 x 1.7 in)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	26.01lbs / 11.8kg	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	30,000 feet (9,144 meters)	30,000 feet (9,144 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes	Yes
Max power supply (W)	2 x 450	2 x 700
Average Power Consumption (W)	165.27	479.6
Total Amp Drawn (A)	3.75 Max	5.8 Max
Heat Output (BTU)	563.57 Max	1635.5 Max
Acoustic Noise (dB)	62.7	71.4

## Specifications – Multi-Tenant Platforms

### LM-X40-MT

<b>Support Subscription Tiers</b>	All
<b>Performance</b>	
Application throughput (Layer 4)	11.2 Gbps
Application throughput (Layer 7)	11 Gbps
Bulk Encryption	4 Gbps
SSL TPS (2K Keys)	6,000
Recommended Tenants	12
Maximum Tenants	24
Concurrent Layer 4 Connections	75,800,000
Layer 4 requests/sec	565,000
<b>Hardware Platform</b>	
CPU	2x Intel Xeon 6136 Gold @3.0GHz, 12C/24T
Memory (RAM Size)	64GB
Storage	2 x 1TB HDD (RAID 1)
Hardware SSL Acceleration	No
Gigabit Ethernet Ports	2
10 Gigabit Ports (SFP+)	12
VGA Ports	1
Console Ports	1 RJ45
Rack Size	2U
Dimensions (with Bezel)	437 x 570 x 88mm (17.2 x 22.5 x 3.5 in)
Weight	35.2lbs / 16kg
Storage Temperature	-4 to 167 °F (-20 to 75 °C)
Operating Temperature	32 to 104 °F (0 to 40 °C)
Storage Humidity	10% to 90% non-condensing
Operating Relative Humidity	10% to 90% non-condensing
Max Altitude in Operational Mode	16,404 feet (5,000 meters)
Max Altitude in Non-Operational Mode	32,808 feet (10,000 meters)
Input Voltage and Frequency	100-240VAC, 50-60Hz
Hot-Swap, Redundant Power Supply	Yes
Max power supply (W)	2 x 700
Average Power Consumption (W)	479.6
Total Amp Drawn (A)	5.8 Max
Heat Output (BTU)	1635.5 Max
Acoustic Noise (dB)	71.4

## Certification & Compliance

	LM-X1	LM-X3
FIPS	FIPS 140-2 Level 1 NIST Cert 2473	FIPS 140-2 Level 1 NIST Cert 2473
Safety Agency Approval: (IEC, EN, CSA, UL)	IEC 62368-1:2014 2 <sup>nd</sup> Ed. EN 62368-1:2014 +A11:2017 AS/NZS 62368.1:2018 CAN/CSA C22.2 No. 62368-1-14 UL 62368-1 2 <sup>nd</sup> Ed.	IEC 62368-1 2 <sup>nd</sup> Ed. IEC 62368-1:2014 EN 62368-1:2014 +A11:2017 AS/NZS 62368.1:2018
Electromagnetic Compatibility (EMC) Certifications: (CE, FCC, VCCI)	EN 62368-1:2014+A11:2017 EN 55032: 2015 +AC:2016 (Class A), EN 55032: 2012+AC:2013 (Class A) EN 61000-3-2 :2014 (Class A), EN 61000-3-3 :2013, EN 55035 :2017 CISPR 32 :2015+COR1 :2016 AS/NZS CISPR 32:2015, Class A 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A	EN 62368-1:2014+A11:2017 EN 55032: 2015 +AC:2016 (Class A), EN 55032: 2012+AC:2013 (Class A) EN 61000-3-2 :2014 (Class A), EN 61000-3-3 :2013, EN 55035 :2017 CISPR 32 :2015+COR1 :2016 AS/NZS CISPR 32:2015, Class A 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A
RoHS Compliant	Yes	Yes
WEEE Compliant	Yes	Yes
REACH Compliant	Yes	Yes

	LM-X15/LM-X15-MT	LM-X25/LM-X25-MT
FIPS	FIPS 140-2 Level 1 NIST Cert 2473	FIPS 140-2 Level 1 NIST Cert 2473
Safety Agency Approval: (IEC, EN, CSA, UL)	IEC 62368-1 2 <sup>nd</sup> Ed. IEC 62368-1:2014 EN 62368-1:2014 +A11:2017 AS/NZS 62368.1:2018 CSA-C22.2 No. 62368-1-14 UL 62368-1	IEC 62368-1 2 <sup>nd</sup> Ed. IEC 62368-1:2104 2 <sup>nd</sup> Ed. EN 62368-1:2014 +A11:2017 AS/NZS 82368.1:2018 CAN/CSA-C22.2 No. 62368-1-14 UL 62369-1 2 <sup>nd</sup> Ed.
Electromagnetic Compatibility (EMC) Certifications: (CE, FCC, VCCI)	EN 62368-1:2014+A11:2017 EN 55032: 2015 +AC:2016 (Class A), EN 55032: 2012+AC:2013 (Class A) EN 61000-3-2 :2014 (Class A), EN 61000-3-3 :2013, EN 55035 :2017 CISPR 32 :2015+COR1 :2016 AS/NZS CISPR 32:2015, Class A 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A	EN 62368-1:2014+A11:2017 EN 55032 : 2015+AC:2016-07 (Class A) EN 55032 : 2012+AC:2013 (Class A) EN 61000-3-2:2014, Class A EN 61000-3-3:2013 EN 55024 : 2010+A1:2015, EN 55024 : 2010 AS/NZS CISPR 32:2015, (Class A) 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A
RoHS Compliant	Yes	Yes
WEEE Compliant	Yes	Yes
REACH Compliant	Yes	Yes

## Certification & Compliance

	LM-X40/LM-X40-MT/LM-X40M	LM-XHC-25G/LM-XHC-40G/LM-XHC-100G
FIPS	FIPS 140-2 Level 1 NIST Cert 2473	FIPS 140-2 Level 1 NIST Cert 2473
Safety Agency Approval: (IEC, EN, CSA, UL)	IEC 62368-1 2 <sup>nd</sup> Ed. IEC 62368-1:2104 2 <sup>nd</sup> Ed. EN 62368-1:2014 +A11:2017 AS/NZS 82368.1:2018 CAN/CSA-C22.2 No. 62368-1-14 UL 62369-1 2 <sup>nd</sup> Ed.	IEC 62368-1 2 <sup>nd</sup> Ed. IEC 62368-1:2104 2 <sup>nd</sup> Ed. EN 62368-1:2014 +A11:2017 AS/NZS 82368.1:2018 CAN/CSA-C22.2 No. 62368-1-14 UL 62369-1 2 <sup>nd</sup> Ed.
Electromagnetic Compatibility (EMC) Certifications: (CE, FCC, VCCI)	EN 62368-1:2014+A11:2017 EN 55032 : 2015+AC:2016-07 (Class A) EN 55032 : 2012+AC:2013 (Class A) EN 61000-3-2:2014, Class A EN 61000-3-3:2013 EN 55024 : 2010+A1:2015, EN 55024 : 2010 AS/NZS CISPR 32:2015, (Class A) 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A	EN 62368-1:2014+A11:2017 EN 55032 : 2015+AC:2016-07 (Class A) EN 55032 : 2012+AC:2013 (Class A) EN 61000-3-2:2014, Class A EN 61000-3-3:2013 EN 55024 : 2010+A1:2015, EN 55024 : 2010 AS/NZS CISPR 32:2015, (Class A) 47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, updated Apr. 2019, Class A VCCI-CISPR 32:2016, Class A
RoHS Compliant	Yes	Yes
WEEE Compliant	Yes	Yes
REACH Compliant	Yes	Yes