VECTOR DATA™

VAULT V-SERIES PHYSICAL SPECIFICATIONS

BLOCK COMPONENTS	V5400	V5600	V5800	V7600
Min/Max Drives	4/250	4/500	4/750	4/1000
Max FAST Cache	1TB	2TB	3TB	4.2TB
Array Enclosure	3U Disk Processor Enclosure (Holds 25x2.5" SAS/Flash drives)	3U Disk Processor Enclosure (Holds 25x2.5" SAS/Flash drives)	3U Disk Processor Enclosure (Holds 25x2.5" SAS/Flash drives)	3U Disk Processor Enclosure (Holds 25x2.5" SAS/Flash drives)
Drive Enclosure Options (DAE)	25x2.5" SAS/Flash drives–2U 15x3.5" SAS/Flash drives–3U	25x2.5" SAS/Flash drives–2U 15x3.5" SAS/Flash drives–3U 60x3.5" SAS/Flash drives–4U*	25x2.5" SAS/Flash drives–2U 15x3.5" SAS/Flash drives–3U 60x3.5" SAS/Flash drives–4U*	25x2.5" SAS/Flash drives–2U 15x3.5" SAS/Flash drives–3U 60x3.5" SAS/Flash drives–4U*
Standby Power System	Battery on board	Battery on board	Battery on board	Battery on board
Raid Options	0/1/10/3/5/6	0/1/10/3/5/6	0/1/10/3/5/6	0/1/10/3/5/6
CPU/Memory per Array	2 x Intel Xeon 4-Core 1.8 GHz/32 GB	2 x Intel Xeon 4-Core 2.4 GHz/48 GB	2 x Intel Xeon 6-Core 2.0 GHz/64 GB	2 x Intel Xeon 8-Core 2.2GHz/128 GB
Max Block UltraFlex™ IO Modules per Array	8	10	10	10
Embedded IO Ports per Array	4 x 4 lane SAS ports (for BE Connection)	4 x 4 lane SAS ports (for BE Connection)	4 x 4 lane SAS ports (for BE Connection)	4 x 4 lane SAS ports (for BE Connection)
Base 6 Gb/s SAS BE Buses per Array	2 x 4 Lane	2 x 4 Lane	2 x 4 Lane	2 x 4 Lane
Max 6 Gb/s SAS BE Buses per Array	2 x 4 Lane	6 x 4 Lane or 2 x 4 Lane + 2 x 8 Lane	6 x 4 Lane or 2 x 4 Lane + 2 x 8 Lane	6 x 4 Lane or 2 x 4 Lane + 2 x 8 Lane
Max Total Ports per Array	36	44	44	44
2/4/8 Gb/s FC Max Ports per Array	32	40	40	40
1 GBaseT iSCSI Max Total Ports per Array	16	16	16	16
10 GbE iSCSI Max Total Ports per Array	16	16	16	16
Max FCoE Total Ports per Array	16	20	20	20
FILE COMPONENTS* **				
# File X-Blades	1-2	1-2	1-3	2-4
# Control Stations	1-2 x 1U Server	1-2 x 1U Server	1-2 x 1U Server	1-2 x 1U Server
X-Blade: CPU/Memory	Intel Xeon 5600/6 GB	Intel Xeon 5600/12 GB	Intel Xeon 5600/12 GB	Intel Xeon 5600/24 GB
Max File UltraFlex IO Modules per X-Blade	3	3	4	4
Min/Max 2/4/8 Gb/s FC Ports per X-Blade	4	4	4	4
Max IP Ports per X- Blade	8	8	12	12
Max 1 GBaseT Ports per X-Blade	8	8	12	12
Max 10 GbE Ports per X-Blade	4	4	6	6
OTHER				
Management	LAN 2x 10/100/1000 Copper GbE	LAN 2x 10/100/1000 Copper GbE	LAN 2x 10/100/1000 Copper GbE	LAN 2x 10/100/1000 Copper GbE

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FUNCTIONAL LIMITS

	V5400	V5600	V5800	V7600
Max Raw Capacity	750 TB	1,500 TB	2,250 TB	3,000 TB
Max SAN Hosts	1,024	1,024	2,048	4,096
Max Number of Pools	15	20	40	40
Max Number of LUNs	1,000	1,000	2,000	3,000
Max Pool Based LUN Size	256 TB (Virtual Pool LUN)	256 TB (Virtual Pool LUN)	256 TB (Virtual Pool LUN)	256 TB (Virtual Pool LUN)
Max File System Size	16 TB	16 TB	16 TB	16 TB
Maximum Usable File Capacity per X-Blade	256 TB	256 TB	256 TB	256 TB
OS Support	Block OS's see EMC E-Lab™ Navigator and NAS Support Matrix on EMC Powerlink™	Block OS's Plus File OS's see E-Lab Navigator and NAS Support Matrix on Powerlink	Block OS's Plus File OS's see E-Lab Navigator and NAS Support Matrix on Powerlink	Block OS's Plus File OS's see E-Lab Navigator and NAS Support Matrix on Powerlink

* 60-Drive 4U DAE is a top-loading DAE and requires a high-density rack.
*** The File components are not required when ordering a block-only system.
Note: In-family Data-in-Place conversions, i.e. converting from a smaller Vault V-Series platform to a large one, are also supported

VAULT V-SERIES CONNECTIVITY

The Vault V-Series provides flexible connectivity options via UltraFlex IO modules for both the file X-blades for NAS connectivity and the block storage processors for FC and iSCSI host connectivity (see above table for number of modules supported per blade or SP).

ULTRAFLEX IO MODULE OPTIONS (BLOCK)

IO Module	Description
Four-Port Fibre Channel Module	FC module with four ports auto-negotiating to 2/4/8 Gbps; uses optical SFP and OM2/OM3 cabling to connect directly to host HBA or FC switch
Four-Port 1 Gb/s iSCSI Module with TOE	iSCSI module with four 1 GBaseT RJ-45 copper connections to Cat 6 cabling to Ethernet switch; includes TCP offload engine
Two-Port 10 Gb/s Opt iSCSI Module with TOE	iSCSI module with two 10 Gb/s Ethernet ports and choice of SFP+ optical connection or active twinax copper connection to Ethernet switch; includes TCP offload engine
Two-Port 10 GBASE-T iSCSI Module with TOE	iSCSI module with two 10 GBaseT Ethernet ports with copper connection to Ethernet switch; includes TCP offload engine
Two-Port 10 GbE FCoE Module	FCoE module with two 10 Gb/s Ethernet ports and choice of SFP+ optical connection or active twinax copper connection to converged enhanced Ethernet switch
Four-Port 6Gb/s SAS V2.0 Module	SAS module, used for back-end storage (DAE) connectivity to Block Storage Processors. Each SAS port has 4x lane/port @ 6Gb, delivering 24Gb/s nominal throughput and connects to PCI-E Gen3. Can be configured as 4x4x6 or 2x8x6.

ULTRAFLEX IO MODULE OPTIONS (FILE)

IO Module	Description
Four-Port 1 GBASE-T IP Module	10/100/1000 BaseT module with four ports supporting RJ-45 copper connections to Cat 6 cabling to Ethernet switch
Four-Port 1 GBASE-T and 1 GbE Opt IP Module	IP module with two ports of 10/100/1000 BaseT and two ports 1 GbE optical
Two-Port 10 GbE Opt IP Module	IP module with two 10 Gb/s Ethernet ports and choice of SFP+ optical connection or active twinax copper connection to Ethernet switch
Two-Port 10 GBASE-T IP Module	IP module with two 10 GBaseT Ethernet ports with copper connection to Ethernet switch
Four-Port 8 Gb/s Fibre Channel Module	FC module with four ports auto-negotiating to 2/4/8 Gbps; uses optical SFP and OM2/OM3 cabling to connect directly to captive array and to provide NDMP tape connection

MAXIMUM CABLE LENGTHS

Shortwave optical OM2: 50 meters (8 Gb), 100 meters (4 Gb), and 300 meters (2 Gb)
Shortwave optical OM3: 150 meters (8 Gb), 380 meters (4 Gb), and 500 meters (2 Gb)

BACK-END (DISK) CONNECTIVITY

Each storage processor connects to one side of each of two, four, eight or sixteen (depending on model) redundant pairs of four-lane x 6 Gb/s Serial Attached SCSI (SAS) buses, providing continuous drive access to hosts in the event of a storage processor or bus fault. Vault V-Series models require four "vault" drives (SAS or Near-line SAS) and support a platform specific maximum number of disks (see Vault V-Series physical specifications table above). 300 GB per vault drive is consumed by Vault V-Series operating environment software and data structures.

DISK ARRAY ENCLOSURES

	15x3.5" Drive DAE	**60x3.5" Drive DAE**	**25x2.5" Drive DAE**
Drive Types Supported	2.5" Flash (in 3.5" carrier) 2.5" 15K Rotating (in 3.5" carrier) 3.5" 15K Rotating 2.5" 10K Rotating (in 3.5" carrier) 3.5" Near-line Rotating	3.5" Flash 2.5" 15K Rotating (in 3.5" carrier) 2.5" 10K Rotating (in 3.5" carrier) 3.5" Near-line Rotating	2.5" Flash 2.5" 15K Rotating 2.5" 10K Rotating 2.5" Near-line Rotating
Drive Mixing	No limitations	No limitations	No limitations
Controller Interface	6 Gb SAS	6 Gb SAS	6 Gb SAS

DISK DRIVES FOR 15X3.5" AND 60X3.5" DRIVE DISK PROCESSOR ENCLOSURE / DISK ARRAY ENCLOSURE

Nominal Capacity	**100 GB Solid State Drive***	**200 GB Solid State Drive***	**400 GB Solid State Drive***	**300 GB 15K Drive**	**300 GB 15K Drive**	**600 GB 15K Drive**	**600 GB 10K Drive**	**900 GB 10K Drive**	**2 TB 7.2K Drive**	**3 TB 7.2K Drive**
Supported in 15 drive DAE	✓	✓	✓	✓		✓	✓	✓	✓	✓
Supported in 60 drive DAE	✓	✓	✓		✓		✓	✓	✓	✓
Formatted Capacity**	93.16 GB	186.31 GB	372.52 GB	272.59 GB	272.59 GB	545.19 GB	545.19 GB	820.6 GB	1836.01 GB	2794.51 GB
Drive Form Factor	2.5"	2.5"	2.5"	3.5"	2.5"	3.5"	2.5"	2.5"	3.5"	3.5"
Rotational Speed	Solid State	Solid State	Solid State	15,000 rpm	15,000 rpm	15,000 rpm	10,000 rpm	10,000 rpm	7,200 rpm	7,200 rpm
Interface	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS
Data Buffer	N/A SSD	N/A SSD	N/A SSD	16 MB min	16 MB min	16 MB min	16 MB min	16 MB min	16 MB min	16 MB min
ACCESS TIME										
Average Read	N/A	N/A	N/A	3.4 msec	2.8 msec	3.4 msec	3.7 msec	3.7 msec	8.5 msec	8.5 msec
Average Write	N/A	N/A	N/A	3.9 msec	3.3 msec	3.9 msec	4.2 msec	4.2 msec	9.5 msec	9.5 msec
Rotation Latency	N/A	N/A	N/A	2.0 msec	2.0 msec	2.0 msec	3.0 msec	3.0 msec	4.16 msec	4.16 msec
NOMINAL POWER CONSUMPTION (WATTS)										
Operating Mode	4.97	4.97	4.97	12.92	9.07	16.35	5.6	5.6	12.2	12.2
Idle Mode	1.36	1.36	1.36	8.74	5.25	11.68	3.1	3.1	8.0	8.0

DISK DRIVES FOR 25X2.5" DRIVE DISK PROCESSOR ENCLOSURE / DISK ARRAY ENCLOSURE

Nominal Capacity	100 GB Solid State Drive*	200 GB Solid State Drive*	400 GB Solid State Drive*	300 GB 15K Drive	600 GB 10K Drive	900 GB 10K Drive	1 TB 7.2K Drive
Formatted Capacity**	93.1 GB	186.31 GB	372.52 GB	272.59 GB	545.19 GB	820.6 GB	931.51 GB
Form Factor	2.5"	2.5"	2.5"	2.5"	2.5"	2.5"	2.5"
Rotational Speed	Solid State	Solid State	Solid State	15,000 rpm	10,000 rpm	10,000 rpm	7,200 rpm
Interface	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS	6 Gb SAS
Data Buffer	N/A SSD	N/A SSD	N/A SSD	16 MB min	16 MB min	16 MB min	16 MB min
ACCESS TIME							
Average Read	N/A	N/A	N/A	2.8 msec	3.6 msec	3.6 msec	7.7 msec
Average Write	N/A	N/A	N/A	3.3 msec	4.2 msec	4.2 msec	8.7 msec
Rotation Latency	N/A	N/A	N/A	2.0 msec	3.0 msec	3.0 msec	4.16 msec
NOMINAL POWER CONSUMPTION (WATTS)							
Operating Mode	4.97	4.97	4.97	9.07	5.6	5.6	7.44
Idle Mode	1.36	1.36	1.36	5.25	3.1	3.1	4.84

* 100GB and 200GB SSDs are available in SLC or eMLC technology. 400GB SSD is eMLC technology. eMLC can only be used for FAST VP use cases. ** 520 bytes/sector, 1 MB = 1,048,576 bytes

DPE / SPE / DAE ENCLOSURES

	V5400 DPE (25x2.5" drives)	V5600 DPE (25x2.5" drives)	V5800 DPE (25x2.5" drives)	V7600 DPE (25x2.5" drives)	15x3.5" Disk Array Enclosure*	60x3.5" Disk Array Enclosure*	25x2.5" Disk Array Enclosure*
POWER							
AC Line Voltage	200 to 240 Vac ± 10%, single-phase, 47 to 63 Hz	200 to 240 Vac ± 10%, single-phase, 47 to 63 Hz	200 to 240 Vac ± 10%, single-phase, 47 to 63 Hz	200 to 240 Vac ± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz
AC Line Current (operating maximum)	4.3 A max at 200 Vac	4.4 A max at 200 Vac	4.4 A max at 200 Vac	4.5 A max at 200 Vac	2.8 A max at 100 Vac, 1.4 A max at 200 Vac	12.0 A max at 100 Vac, 6.0 A max at 200 Vac	2.5 A max at 100 Vac, 1.3 A max at 200 Vac
Power Consumption (operating maximum)	860 VA (835 W) max	870 VA (845 W) max	870 VA (845 W) max	905 VA (880 W) max	280 VA (235 W) max	1,200 VA (1,130 W) max	250 VA (230 W) max
Power Factor	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage
Heat Dissipation (operating maximum)	3.01 x 10^6 J/hr, (2,850 Btu/hr) max	3.04 x 10^6 J/hr, (2,890 Btu/hr) max	3.04 x 10^6 J/hr, (2,890 Btu/hr) max	3.17 x 10^6 J/hr, (3,010 Btu/hr) max	8.46 x 10^5 J/hr, (800 Btu/hr) max	4.07 x 10^6 J/hr, (3,860 Btu/hr) max	8.28 x 10^5 J/hr, (785 Btu/hr) max
In-rush Current	30 A max for ½ line cycle, per line cord at 240 Vac	30 A max for ½ line cycle, per line cord at 240 Vac	30 A max for ½ line cycle, per line cord at 240 Vac	30 A max for ½ line cycle, per line cord at 240 Vac	50 A max for ½ line cycle, per line cord at 240 Vac 25 A max for ½ line cycle, per line cord at 120 Vac	30 A max for ½ line cycle, per line cord at 240 Vac 15 A max for ½ line cycle, per line cord at 120 Vac	50 A max for ½ line cycle, per line cord at 240 Vac 25 A max for ½ line cycle, per line cord at 120 Vac
Startup Surge Current	29 A rms max for 50 ms, at any line voltage	29 A rms max for 50 ms, at any line voltage	29 A rms max for 50 ms, at any line voltage	29 A rms max for 50 ms, at any line voltage	10.6 A rms max for 100 ms, at any line voltage	27 A rms max for 100 ms, at any line voltage	10.6 A rms max for 100 ms, at any line voltage
AC Protection	10 A fuse on each power supply	10 A fuse on each power supply	10 A fuse on each power supply	10 A fuse on each power supply	10 A fuse on each power supply, both phases	12 A fuse on each line cord, both phases	10 A fuse on each power supply, both phases
AC Inlet Type	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, two per power zone	IEC320-C14 appliance coupler, per power zone

DPE / SPE / DAE ENCLOSURES (CONT.)

	V5400 DPE (25x2.5” drives)	V5600 DPE (25x2.5” drives)	V5800 DPE (25x2.5” drives)	V7600 DPE (25x2.5” drives)	15x3.5” Disk Array Enclosure*	60x3.5” Disk Array Enclosure*	25x2.5” Disk Array Enclosure*
Ride-through Time	12 ms min	12 ms min	12 ms min	12 ms min	30 ms min	30 ms min	30 ms min
Current Sharing	± 5 percent of full load, between power supplies	± 5 percent of full load, between power supplies	± 5 percent of full load, between power supplies	± 5 percent of full load, between power supplies	± 10 percent of full load, between power supplies	± 10 percent of full load, between power supplies	± 10 percent of full load, between power supplies

NOTE: Each SPE requires a Standby Power Supply (see the following information)

DATA MOVER ENCLOSURES, AND CONTROL STATION

	V5400 DME with (2) Data Movers	V5600 DME with (2) Data Movers	V5800 DME with (2) Data Movers	V7600 DME with (2) Data Movers	Control Station	2.2KW 2U SPS (Note all ratings assume fully configured systems)
POWER						
AC Line Voltage	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	100 to 240 Vac± 10%, single-phase, 47 to 63 Hz	200 to 240 Vac ± 10%, single-phase, 47 to 63 Hz
AC Line Current (operating maximum)	5.3 A max at 100 Vac, 2.7 A max at 200 Vac	5.3 A max at 100 Vac, 2.7 A max at 200 Vac	5.3 A max at 100 Vac, 2.7 A max at 200 Vac	5.3 A max at 100 Vac, 2.7 A max at 200 Vac	1.0 A max at 100 Vac, 0.5 A max at 200 Vac	
Power Consumption (operating maximum)	530 VA (500 W) max	530 VA (500 W) max	530 VA (500 W) max	530 VA (500 W) max	100 VA (90 W) max	
Power Factor	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.98 min at full load, low voltage	0.90 min at full load, low voltage	N/A for pass-through load, internal 10 VA load is 0.60 power factor
Heat Dissipation (operating maximum)	1.80 x 10^6 J/hr, (1,710 Btu/hr) max	1.80 x 10^6 J/hr, (1,710 Btu/hr) max	1.80 x 10^6 J/hr, (1,710 Btu/hr) max	1.80 x 10^6 J/hr, (1,710 Btu/hr) max	3.24 x 10^5 J/hr, (310 Btu/hr) max	43.2 x 10^3 J/hr, (40 Btu/hr) steady state
In-rush Current	15 A max for ½ line cycle, per line cord at 240 Vac 8 A max for ½ line cycle, per line cord at 120 Vac	15 A max for ½ line cycle, per line cord at 240 Vac 8 A max for ½ line cycle, per line cord at 120 Vac	15 A max for ½ line cycle, per line cord at 240 Vac 8 A max for ½ line cycle, per line cord at 120 Vac	15 A max for ½ line cycle, per line cord at 240 Vac 8 A max for ½ line cycle, per line cord at 120 Vac	15 A max for ½ line cycle, per line cord at 240 Vac 8 A max for ½ line cycle, per line cord at 120 Vac	25 A max for 12 line cycle, per power supply at 240 Vac
Startup Surge Current	27 A rms max for 50 ms, at any line voltage	27 A rms max for 50 ms, at any line voltage	27 A rms max for 50 ms, at any line voltage	27 A rms max for 50 ms, at any line voltage	N/A	
AC Protection	7.8 A fuse on each power supply, both phases	7.8 A fuse on each power supply, both phases	7.8 A fuse on each power supply, both phases	7.8 A fuse on each power supply, both phases	N/A	20 A circuit breaker
AC Inlet Type	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler, per power zone	IEC320-C14 appliance coupler with switch
Ride-through Time	30 ms min	30 ms min	30 ms min	30 ms min	N/A	
Current Sharing	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	± 15 percent of full load, between power supplies	N/A	

VAULT V-SERIES DC POWERED ELECTRICAL SPECIFICATIONS

All power numbers below are derived based on worst case chassis configurations (fully configured with the highest powered drives and UltraFlex IO Modules)

DC POWERED DPE AND DAE ENCLOSURES

	V5200 DPE (25x2.5" drives)	V5400 DPE (25x2.5" drives)	V5600/5800/7600 DPE (25x2.5" drives)	15x3.5" Disk Array Enclosure*	25x2.5" Disk Array Enclosure*
POWER					
DC Line Voltage	-36 to -72 VDC (Nominal -48 V or -60 V power systems)	-36 to -72VDC (Nominal -48 V or -60V power systems)	-36 to -72VDC (Nominal -48 V or -60V power systems)	-36 to -72VDC (Nominal -48 V or -60V power systems)	-36 to -72VDC (Nominal -48 V or -60V power systems)
DC Line Current (operating maximum)	24.69 A max at -36 V DC 18.52 A max at -48 V DC 12.35 A max at -72 V DC	24.69 A max at -36 V DC 18.52 A max at -48 V DC 12.35 A max at -72 V DC	26.2 A max at -36 V DC 19.7 A max at -48 V DC 13.1 A max at -72 V DC	7.86 A max at -36 V DC 5.9 A max at -48 V DC 3.93 A max at -72 V DC	7.56 A max at -36 V DC 5.67 A max at -48 V DC 3.78 A max at -72 V DC
Power Consumption (operating maximum)	889 W max	889 W max	944 W max	283 W max	272 W max
Heat Dissipation (operating maximum)	$3.19x10^6$ J/hr, (3033 Btu/hr) max	$3.19x10^6$ J/hr, (3033 Btu/hr) max	$3.39x10^6$ J/hr, (3221 Btu/hr) max	$1.02x10^6$ J/hr, (965.6 Btu/hr) max	$.979x10^6$ J/hr, (928.1 Btu/hr) max
In-rush Current	33.5 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	33.5 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	33.5 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	20 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	20 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve
DC Protection	40 A fuse in each power supply	40 A fuse in each power supply	40 A fuse in each power supply	20 A fuse in each power supply	20 A fuse in each power supply
DC Inlet Type	Positronic Inc. † PLBH3W3M4B0A1/AA	Positronic Inc. † PLBH3W3M4B0A1/AA	Positronic Inc. † PLBH3W3M4B0A1/AA	Positronic Inc. † PLB3W3M1000	Positronic Inc. † PLB3W3M1000
Mating DC Connector	Positronic Inc. † PLB3W3F0000/AA Use with Positronics FC610N2S/AA (10AWG Contacts)	Positronic Inc. † PLB3W3F0000/AA Use with Positronics FC610N2S/AA (10AWG Contacts)	Positronic Inc. † PLB3W3F0000/AA Use with Positronics FC610N2S/AA (10AWG Contacts)	Positronic Inc. † PLB3W3F7100A1	Positronic Inc. † PLB3W3F7100A1
Ride-through Time	1ms min at -50 V input	1ms min at -50 V input	1ms min at -50 V input	5ms min at -40V input	5ms min at -40V input
Current Sharing	± 5% of full load, between power supplies	± 5% of full load, between power supplies	± 5% of full load, between power supplies	± 10% of full load, between power supplies	± 15% of full load, between power supplies
DIMENSIONS					
Height (in/cm)	5.25 in/13.34 cm	5.25 in/13.34 cm	5.25 in/13.34 cm	5.25 in/13.34 cm	3.45 in/8.76 cm
Width (in/cm)	18.75 in/47.62 cm	18.75 in/47.62 cm	18.75 in/47.62 cm	17.62 in/44.75 cm	17.62 in/44.75 cm
Depth (in/cm)	24.25 in/61.6 cm	24.25 in/61.6 cm	24.25 in/61.6 cm	14.00 in/35.56 cm	13.00 in/33.02 cm
Weight (lb/kg) (with and without drives)	Full: 90.0 lbs/40.8 Kg Empty: 70.0lbs/ 31.75Kg	Full: 90.0 lbs/40.8 Kg Empty: 70.0 lbs/ 31.75Kg	Full: 90.0 lbs/40.8 Kg Empty: 70.0 lbs/ 31.75Kg	Full: 67.6 Lbs/30.66 Kg Empty: 31.70 Lbs/ 14.38 Kg	Full: 45 Lbs/20.41 Kg Empty: 35 Lbs/ 15.88 Kg

†Positronic Inc. – www.connectpositronic.com

All power numbers below are derived based on worst case chassis configurations (Data Movers are fully configured with the highest powered UltraFlex IO Modules)

	V5200 DME with (2) Data Movers	V5400 DME with (2) Data Movers	V5600/5800/7600 DME with (2) Movers	Control Station
POWER				
DC LineVoltage	-36 to -72 V DC (Nominal -48 V or -60 V power systems)	-36 to -72 V DC (Nominal -48 V or -60 V power systems)	-36 to -72 V DC (Nominal -48 V or -60 V power systems)	-40.5 to -60 V DC (Nominal -48 V power systems)
DC Line Current (operating maximum)	12.2 A max at -36 V DC 9.1 A max at -48 V DC 6.1 A max at -72 V DC	12.2 A max at -36 V DC 9.1 A max at -48 V DC 6.1 A max at -72 V DC	12.2 A max at -36 V DC 9.1 A max at -48 V DC 6.1 A max at -72 V DC	3.2 A max at 40.5 VDC 2.7 A max at 48 V DC 2.2 A max at 60 V DC
Power Consumption (operating maximum)	438 W max	438 W max	438 W max	130 W max
Heat Dissipation (operating maximum)	$1.58x10^6$ J/hr, (1,495 Btu/hr) max	$1.58x10^6$ J/hr, (1,495 Btu/hr) max	$1.58x10^6$ J/hr, (1,495 Btu/hr) max	$.468x10^6$ J/hr, (445 Btu/hr) max
In-rush Current	36 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	36 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	36 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve	20 A peak, per requirements in EN300 132-2 Sect. 4.7 limit curve
DC Protection	18 A fuse in each power supply	18 A fuse in each power supply	18 A fuse in each power supply	20 A fuse in each power supply
DC Inlet Type	Molex Inc. † 46394-5001	Molex Inc. † 46394-5001	Molex Inc. † 46394-5001	Positronic Inc. †† PLB-3W3M1000
Mating DC Connector	Molex Inc. † 46396-5205 = 10- 12AWG Use with Molex 44262-4302 (10- 12AWG Contacts)	Molex Inc. † 46396-5205 = 10- 12AWG Use with Molex 44262-4302 (10- 12AWG Contacts)	Molex Inc. † 46396-5205 = 10- 12AWG Use with Molex 44262-4302 (10- 12AWG Contacts)	Positronic Inc. †† PLB3W-3F7100A1
Ride-through Time	10 ms min at -50V input	10 ms min at -50V input	10 ms min at -50V input	10 ms min at -50V input
Current Sharing	± 10% of full load, between power supplies	± 10% of full load, between power supplies	± 10% of full load, between power supplies	± 10% of full load, between power supplies
DIMENSIONS				
Height (in/cm)	3.5 in/ 8.9 cm	3.5 in/ 8.9 cm	3.5 in/ 8.9 cm	3.5 in/8.9 cm (1U for Control Station + 1U for Inverter Tray)
Width (in/cm)	17.5 in/ 44.45 cm	17.5 in/ 44.45 cm	17.5 in/ 44.45 cm	17.5 in/ 44.45 cm
Depth (in/cm)	24.25 in/ 61.6 cm	24.25 in/ 61.6 cm	24.25 in/ 61.6 cm	20 in/50.8 cm
Weight (lb/kg) (with and without Data Movers)	Full: 49.5 lb/22.5 Kg Empty: 37.6/17.1Kg	Full: 49.5 lb/22.5 Kg Empty: 37.6/17.1Kg	Full: 49.5 lb/22.5 Kg Empty: 37.6/17.1Kg	36 lb/16.3Kg*

*Includes 10 lbs for Inverter Tray.
**Inverter Chassis is 1/2 wide and therefore inverter for 2nd control station fits in the same 1U space. † Molex Inc. – www.molex.com
††Positronic Inc. – www.connectpositronic.com

OPERATING ENVIRONMENT (MEETS ASHRAE EQUIPMENT CLASS A3)

Recommended Range Operation	The limits under which equipment will operate the most reliably while still achieving reasonably energy-efficient data center operation.	18°C to 27°C (64.4°F to 80.6°F) at 5.5°C (41.9°F) dew point to 60% relative humidity and 15°C (59°F) dew point
Continuous Allowable Range Operation	Data center economization techniques (e.g. free cooling) may be employed to improve overall data center efficiency. These techniques may cause equipment inlet conditions to fall outside the recommended range but still within the continuously allowable range. Equipment may be operated without any hourly limitations in this range.	10°C to 35°C (50°F to 95°F) at 20% to 80% relative humidity with 21°C (69.8°F) maximum dew point (maximum wet bulb temperature). De-rate maximum allowable dry bulb temperature at 1°C per 300m above 950m (1°F per 547 ft above 3117 ft).
Expanded Allowable Range Operation	During certain times of the day or year, equipment inlet conditions may fall outside the continuously allowable range but still within the expanded allowable range. Equipment operation is limited to ≤ 10% of annual operating hours in this range.	5°C to 10°C and 35°C to 40°C (with no direct sunlight on the equipment) at -12°C dew point and 8% to 85% relative humidity with 24°C dew point (maximum wet bulb temperature). Outside the continuously allowable range (10°C to 35°C), the system can operate down to 5°C or up to 40°C for a maximum of 10% of its annual operating hours. For temperatures between 35°C and 40°C (95°F to 104°F), de-rate maximum allowable dry bulb temperature by 1°C per 175m above 950m (1°F per 319 ft above 3117 ft).
Exceptions to Expanded Allowable Range Operation	When operating in the expanded allowable temperature range, system performance is guaranteed while the system is awaiting or being serviced.	Due to certain rare operational modes, it is recommended that service be deferred on 60x3.5" Disk Array Enclosures when temperatures exceed 35°C.
Temperature Gradient		20°C / hour (36°F / hour)
Altitude	Max Operating	3050m (10,000ft)

ELECTROMAGNETIC EMISSIONS AND IMMUNITY

FCC Class A EN55022 Class A
CE Mark VCCI Class A (for Japan)
ICES-003 Class A (for Canada) AS/NZS 3548 Class A (for Australia/New Zealand) EN55024 Immunity, ITE BSMI Class A (for Taiwan)

QUALITY AND SAFETY STANDARDS

UL 60950; CSAC 22.2-60950, EN 60950
Manufactured under an ISO 9000-registered quality system ETSI EN 300 386

CONTACT US

To learn more about how Vector Data products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.vectordata.com.

07/13 Specification Sheet H8514.10

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