



# PURE Pb+

## PURE LEAD PLUS



Valve Regulated Lead Acid Battery  
Designed for UPS Standby Power Applications  
305-545 Watts per Cell

### APPLICATIONS

- Data Centers
- Network Operations Centers
- Industrial Process Control Facilities
- Internet Housing Sites
- Semiconductor Manufacturing
- Banks & Financial Markets
- Power Generation Plants
- Hospitals & Testing Laboratories
- Emergency 911 Response Centers

### FEATURES & BENEFITS

- Pure Lead Paste for long life and stable performance
- Industry Leading Warranty
- Extended life at elevated ambient temperatures
- 10 year design life @ 25°C
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance
- Patented Long Life Alloy having the lowest calcium levels in the industry - minimizing grid growth, reducing gassing, and extending battery life
- Patented UL Recognized Flame-arresting vents in each cell for safety and long life
- Designed with the same recombination, thermal runaway prevention, gassing and flame retardant characteristics of the Bellcore 4228 compliant Dynasty Telecom products
- Flame retardant polypropylene case and cover compliant with UL94-V2
- Advanced proprietary plate processing technology for high active material utilization - results in high energy density and low float currents
- Thermally welded and helium leak tested case-to-cover bond to ensure a robust leak proof seal
- Can be operated in any orientation. Upright, side or end mounting recommended
- Not restricted for air transport - Complies with IATA/ICAO Special Provisions A67
- Not restricted for surface transport - Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189
- Not restricted for water transport - Classified as non-hazardous material per IMDG Amendment 27

## TECHNICAL DATA

Model	Voltage	Ah 20 hr*	Constant Power Discharge Ratings - Watts per Cell @ 77°F (25°F)									Weight	
			Operating Time (in minutes) to 1.67 Volts per Cell										
			5	10	15	20	30	40	50	60	90	lbs	kg
UPS12-305PLP	12	80	551.5	388.9	305.0	247.5	184.8	148.5	124.2	107.1	75.8	58.4	26.5
UPS12-355PLP	12	94	625.2	444.4	355.0	291.9	218.2	174.7	145.4	124.2	86.8	67.4	30.5
UPS12-405PLP	12	104	723.2	511.1	405.0	331.3	246.4	197.0	163.6	140.4	98.2	75.8	34.4
UPS12-495PLP	12	142	778.7	598.8	495.0	415.1	320.0	260.6	220.2	190.9	136.4	100.0	45.0
UPS12-545PLP	12	150	883.8	663.6	545.2	455.5	346.4	279.8	233.3	200.0	140.4	100.0	45.0

\* Nominal 20 hr rate to 1.75 VPC in Ampere-Hours.

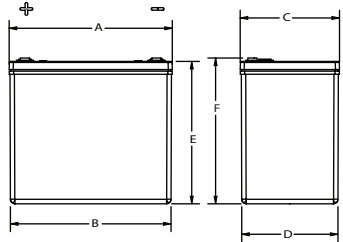
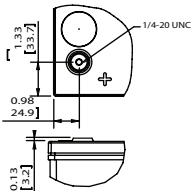
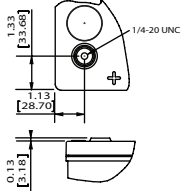
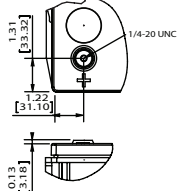
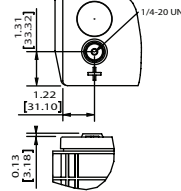
Above ratings do not include interunit connector voltage drops.

Please contact C&D Application Engineering for proper utilization of sub-5 minute rates.

## SPECIFICATIONS

<b>Operating Temperature Range with temperature compensation</b>	Discharge: -40°F (-40°C) to +160°F (+71°C) Charge: -10°F (-23°C) to +140°F (+60°C)
<b>Nominal Operating Temperature Range</b>	+74°F (+23°C) to +80°F (+27°C)
<b>Recommended Maximum Charging Current Limit</b>	C <sub>20</sub> /5 amperes (20 hr. rate)
<b>Float Charge Voltage</b>	13.65 ± 0.15 VDC average per 12V unit
<b>Maximum AC Ripple (Charger)</b>	0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Max voltage allowed = 1.4% RMS (4% P-P) Max current allowed = C/20 (20 hr. rate)
<b>Self Discharge</b>	Batteries can be stored up to 24 months at +77°F (+25°C) before freshening charge is required. Batteries stored at temperatures greater than +77°F (+25°C) will require recharge sooner than batteries stored at lower temperatures. See C&D brochure 41-7272, Self-Discharge and Inventory Control for details.
<b>Equalize and cycle service charge voltage</b>	14.40 to 14.80 VDC average per 12V unit @ +77°F (+25°C)
<b>Terminal: Inserted</b>	Threaded copper alloy insert terminal accepts 1/4-20 UNC bolt
<b>Terminal Hardware Initial Torque: Inserted Terminal</b>	110 in.-lbs. (12.4 N-m)

## DIMENSIONS

							Battery Termination			
	A	B	C	D	E	F	UPS 12-305PLP	UPS12-355PLP	UPS12-405PLP	UPS12-495PLP/UPS12-545PLP
UPS12-305PLP	10.27 [260.9]	10.17 [258.4]	6.83 [173.4]	6.65 [168.9]	7.89 [200.3]	8.01 [203.5]				
UPS12-355PLP	12.04 [305.8]	11.95 [303.5]	6.83 [173.4]	6.65 [168.9]	7.94 [201.6]	8.06 [204.8]				
UPS12-405PLP	13.42 [340.9]	12.75 [323.7]	6.80 [172.7]	6.54 [166.0]	8.40 [213.2]	8.52 [216.4]				
UPS12-495PLP UPS12-545PLP	13.57 [344.7]	12.74 [323.6]	6.80 [172.7]	6.63 [168.4]	10.81 [274.5]	10.93 [277.7]				

\*All dimensions in inches [mm]. All dimensions are for reference only. Contact a C&D Representative for complete dimension information.  
NOTE: Batteries to be mounted with 0.5 in. [1.25 cm] spacing minimum and free air ventilation.

## UPS12-305PLP

End Point Volts/ Cell	Constant Power Discharge Ratings - Watts Per Cell @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in minutes)										
	1	5	10	15	20	30	40	45	50	60	90
1.75		497.9	363.6	283.8	234.3	176.8	142.4	130.3	120.2	104.0	74.2
1.70		530.3	382.8	295.9	242.4	180.8	145.4	132.3	121.2	105.0	74.7
1.67		551.5	388.9	305.0	247.5	184.8	148.5	135.3	124.2	107.1	75.8
1.65		569.6	399.0	305.0	249.5	184.8	148.5	135.3	125.2	108.1	77.0
1.60		584.8	406.0	309.1	252.5	187.9	151.5	138.4	127.3	110.1	75.5

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @ +77°F (+25°C)									
	Operating Time to End Point Voltage (in hours)									
	1	2	3	5	8	10	12	20	24	72
1.85	48.8	28.4	20.1	12.7	8.4	6.9	5.8	3.7	3.1	1.1
1.80	51.6	29.6	20.9	13.2	8.9	7.3	6.2	3.9	3.3	1.1
1.75	53.2	30.4	21.4	13.5	9.3	7.5	6.4	4.0	3.3	1.1

**Note:** Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification.  
Above ratings do not include interunit connector voltage drops.

## UPS12-355PLP

End Point Volts/ Cell	Constant Power Discharge Ratings - Watts Per Cell @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in minutes)										
	1	5	10	15	20	30	40	45	50	60	90
1.75		539.3	414.1	330.0	274.7	207.1	166.7	151.5	139.4	120.2	85.1
1.70		602.0	429.3	340.4	282.8	213.1	170.7	155.5	142.4	122.2	85.7
1.67		625.2	444.4	355.0	291.9	218.2	174.7	158.6	145.4	124.2	86.8
1.65		644.4	459.6	361.6	299.0	222.2	176.8	160.6	146.5	125.2	87.4
1.60		675.7	475.7	370.7	305.0	225.2	178.8	162.6	148.5	127.3	88.5

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in hours)										
	1	2	3	5	8	10	12	20	24	72	
1.85	53.5	32.1	23.1	14.9	10.7	8.8	7.5	4.6	3.9	1.3	
1.80	59.4	34.8	24.8	15.9	10.2	8.4	7.2	4.4	3.7	1.3	
1.75	63.2	36.7	26.1	16.6	11.1	9.1	7.6	4.7	4.0	1.4	

**Note:** Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification.  
Above ratings do not include interunit connector voltage drops.

## UPS12-405PLP

End Point Volts/ Cell	Constant Power Discharge Ratings - Watts Per Cell @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in minutes)										
	1	5	10	15	20	30	40	45	50	60	90
1.75		618.1	474.7	377.7	313.1	234.3	187.9	170.7	156.6	135.3	95.6
1.70		684.8	494.9	391.9	326.2	243.4	194.9	177.8	162.6	139.4	97.6
1.67		723.2	511.1	405.0	331.3	246.4	197.0	178.8	163.6	140.0	98.2
1.65		747.4	520.2	407.0	335.3	249.5	199.0	180.8	165.6	141.4	99.1
1.60		774.7	535.3	415.1	340.4	251.5	201.0	181.8	166.7	143.4	100.2

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in hours)										
	1	2	3	5	8	10	12	20	24	72	
1.85	56.8	34.0	24.6	15.9	10.9	8.9	7.6	4.8	4.1	1.4	
1.80	62.7	36.9	26.4	16.9	11.5	9.5	8.1	5.1	4.3	1.4	
1.75	68.6	39.6	28.1	17.8	12.0	9.8	8.3	5.2	4.4	1.5	

**Note:** Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification.  
Above ratings do not include interunit connector voltage drops.

## SPECIFICATIONS

Model	Cells per Unit	Maximum Discharge Current (Amps)	Short Circuit Current (Amps @ 0.1 sec)	Ohms Impedance 60 Hz (Ω)*
UPS12-305PLP	6	800	3600	0.0040
UPS12-355PLP	6	800	4200	0.0030
UPS12-405PLP	6	800	5100	0.0025
UPS12-495PLP	6	800	5000	0.0023
UPS12-545PLP	6	800	5000	0.0023

Additional product details available on the C&D Battery Sizing Program at [www.cdstandbypower.net](http://www.cdstandbypower.net). Cabinet systems also available.

\*For reference only. Individual baselines recommended for diagnostic purposes.

## UPS12-495PLP

End Point Volts/Cell	Constant Power Discharge Ratings - Watts Per Cell @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in minutes)										
	1	5	10	15	20	30	40	45	50	60	90
1.75		661.6	532.3	447.4	385.8	303.0	249.5	229.3	212.1	184.8	133.3
1.70		747.4	578.7	474.7	404.0	313.1	255.5	235.3	217.2	188.9	135.3
1.67		778.7	598.9	495.0	415.1	320.2	260.6	239.4	220.2	190.9	136.4
1.65		807.0	620.1	502.0	423.2	324.2	263.6	241.4	222.2	192.9	138.4
1.60		846.4	646.4	518.1	433.3	328.3	266.6	243.4	224.2	194.9	139.4

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @ +77°F (+25°C)									
	Operating Time to End Point Voltage (in hours)									
	1	2	3	5	8	10	12	20	24	72
1.85	81.6	48.9	35.1	22.6	15.2	12.4	10.6	6.7	5.7	1.9
1.80	87.3	51.8	37.1	23.6	15.8	12.8	10.9	6.9	5.9	2.0
1.75	91.9	54.0	38.6	24.6	16.4	13.2	11.2	7.1	6.0	2.1

**Note:** Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification. Above ratings do not include interunit connector voltage drops.

## UPS12-545PLP

End Point Volts/Cell	Constant Power Discharge Ratings - Watts Per Cell @ +77°F (+25°C)										
	Operating Time to End Point Voltage (in minutes)										
	1	5	10	15	20	30	40	45	50	60	90
1.75		725.3	569.6	475.7	410.1	321.2	263.6	241.4	223.2	192.9	137.4
1.70		841.3	632.3	516.1	437.3	335.3	271.7	248.5	228.3	197.0	139.4
1.67		883.8	663.6	545.0	455.5	346.4	279.8	254.5	233.3	200.0	140.4
1.65		921.1	689.8	555.5	466.6	352.5	282.8	257.6	236.6	203.0	142.4
1.60		968.6	708.0	565.6	472.7	356.5	285.8	260.6	239.4	205.0	144.4

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @ +77°F (+25°C)									
	Operating Time to End Point Voltage (in hours)									
	1	2	3	5	8	10	12	20	24	72
1.85	83.5	50.0	36.0	23.1	15.2	12.7	11.0	7.1	6.0	2.0
1.80	90.5	53.6	38.5	24.6	16.1	13.3	11.4	7.4	6.2	2.1
1.75	99.9	57.6	40.7	25.8	16.7	13.7	11.8	7.5	6.4	2.1

**Note:** Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification. Above ratings do not include interunit connector voltage drops.

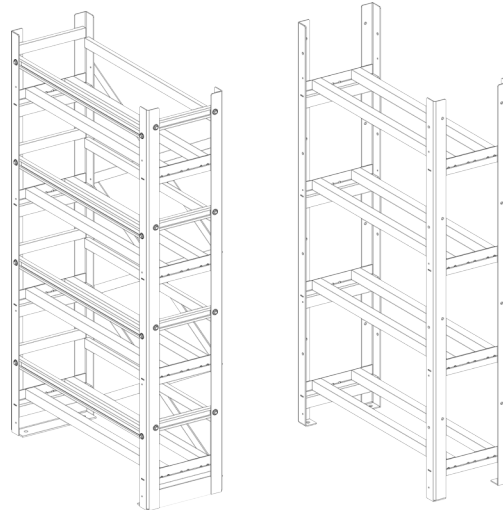
Pure Lead Plus Part Number	Manufacturer Approved Premium Replacement for:
UPS12-305PLP	UPS12-270FR, MR12-300 & UPS12-300MR
UPS12-355PLP	UPS12-310FR, MR12-350 & UPS12-350MR
UPS12-405PLP	UPS12-370FR, MR12-400 & UPS12-400MR
UPS12-495PLP	UPS12-475FR, MR12-490 & UPS12-490MR
UPS12-545PLP	UPS12-530FR, MR12-540 & UPS12-540MR

**Note:** Full string replacement only. Contact C&D for replacement of individual units within a string.

# TOP TERMINAL VRLA BATTERY RACKS

## FOR UPS, TEL, SGC AND VRS TOP TERMINAL BATTERIES

C&D Technologies Top Terminal VRLA battery racks are designed to be durable and easy to install. Engineered for use with most C&D Top Terminal battery models, these racks fit a wide variety of applications.



Seismic

Non-Seismic

### APPLICATIONS

- Telecommunications
- UPS
  - Data Centers
  - Industrial Process Control Facilities
  - Emergency 911 Response Centers
  - Air Traffic Control Centers
- Switchgear & Control
- Renewable Energy

For additional information see brochure 12-1117.

### FEATURES & BENEFITS

#### FLEXIBLE

- 1 tier to 5 tier models available, 4 to 5 batteries per tier.
- Configurable in systems from 48V-480V.
- Racks can be arranged in back-to-back or end-to-end configurations.

#### DURABLE

- High-quality construction guarantees longer life.
- Heavy duty acid-resistant coating is scratch-resistant and chip proof.
- Steel welded construction.

#### EASY TO INSTALL

- Racks are free standing, however floor-anchoring holes are provided (anchor bolts not supplied)
- Welded construction reduces parts and bolted connections.
- Optional cable kits include all cables necessary for string connections.

#### ACCESSIBLE

- Open rack design allows easy maintenance and service.
- Removable front restraints for easy access to batteries.

#### SEISMICALLY CERTIFIED

- Meets seismic requirements of IBC2006.

**C&D TECHNOLOGIES, INC.**

1400 Union Meeting Road  
P.O. Box 3053 • Blue Bell, PA 19422-0858  
(215) 619-2700 • Fax (215) 619-7899 • (800) 543-8630  
customersvc@cdtechno.com  
www.cdtechno.com

Any data, descriptions or specifications presented herein are subject to revision by C&D Technologies, Inc. without notice. While such information is believed to be accurate as indicated herein, C&D Technologies, Inc. makes no warranty and hereby disclaims all warranties, express or implied, with regard to the accuracy or completeness of such information. Further, because the product(s) featured herein may be used under conditions beyond its control, C&D Technologies, Inc. hereby disclaims all warranties, either express or implied, concerning the fitness or suitability of such product(s) for any particular use or in any specific application or arising from any course of dealing or usage of trade. The user is solely responsible for determining the suitability of the product(s) featured herein for user's intended purpose and in user's specific application.

Copyright 2012 C&D TECHNOLOGIES, INC. Printed in U.S.A. 12-1121 0215/CD