



**PowerSafe<sup>®</sup>**  
**DU**

Telecommunications

NEBS™ Certified

**Battery Performance Specifications**



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RESERVE  
POWER

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### Features and Benefits

- Capacity Range: 310 – 780Ah
- Flat plate, lead-calcium grid alloy, well suited for long duration float applications
- Proven Slide-Lock™ post seal design
- Positive and negative posts on each cell allow for monitoring of individual cells
- Standard UL94 V-0 flame retardant cover and container
- NEBS™ level 3 certified for systems with a nominal voltage under 80V
- 20 year life expectancy in float service at 77°F (25°C) ambient temperature

### Construction

- 0.25" thick positive plates provide long discharge rates and long life
- Lead plated copper posts - one positive and one negative post per cell
- Cover - standard PVC UL94 V-0 LOI>28%  
Container - standard PC UL94 V-0 LOI>28%
- Separator - microporous phenolic with "Vitrex" glass fiber retainers
- 1.215 specific gravity nominal at 77°F (25°C)
- Intercell connectors - lead plated copper, optional tin-plated copper

### Installation and Operation

- Maintenance connectors available
- Flat plate, lead-calcium grid alloy, well suited for long duration float applications
- 20 year life expectancy in float service at 77°F (25°C) ambient temperature
- Operating temperature: 32°F (0°C) to 104°F (40°C)  
Recommended temperature: 68°F (20°C) to 86°F (30°C)

### Standards

- The management systems governing the manufacture of this product are ISO 9001:2008 and ISO 14001:2004 certified

### General Specifications

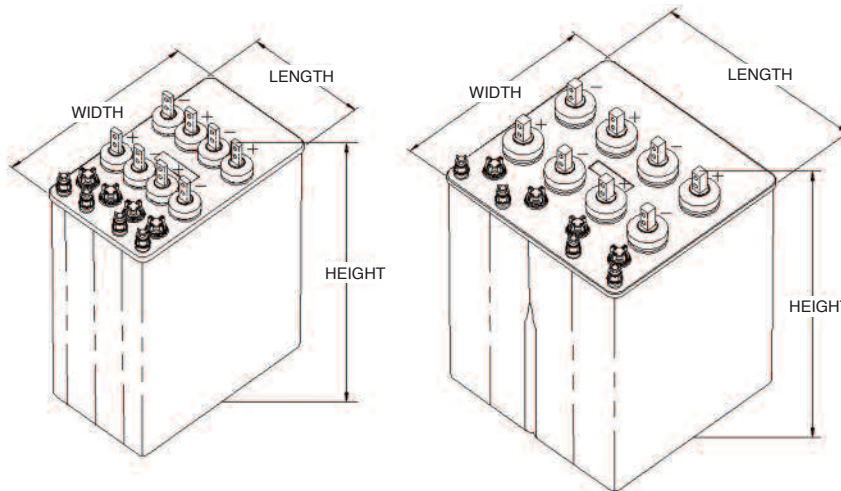
PowerSafe® DU Battery Type*	Nominal Ah Capacity <sup>1</sup>	Nominal Dimensions						Weight - Volumes				Electrolyte only 1.215 S.G.			
		Length**		Width		Height		Unpacked		lbs	kg	gal	liters		
		in	mm	in	mm	in	mm	in	mm	lbs	kg				
4DU-05	310	9.5	241	16.0	406	22.7	576	26.9	683	267	121	64	29	6.3	24
4DU-07	395	9.5	241	16.0	406	22.7	576	26.9	683	328	149	59	27	5.8	22
4DU-09	625	16.7	424	16.0	406	22.7	576	28.8	732	494	224	134	61	13.2	50
4DU-11	715	16.7	424	16.0	406	22.7	576	28.8	732	555	252	123	56	12.2	46
4DU-13	780	16.7	424	16.0	406	22.7	576	28.8	732	617	280	113	51	11.1	42

\* Prefix number indicates cells per unit. Suffix number indicates total plates per cell.

\*\* 0.25" must be added between units for spacing purposes when calculating total battery length.

\*\*\* Includes height to top of terminal plate.

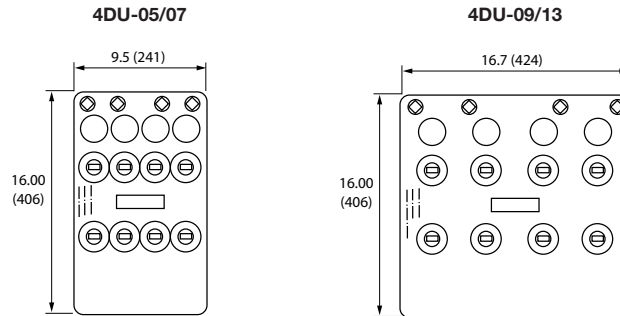
<sup>1</sup> Nominal Ah capacity is based on an 8 hour rate to 1.75 volts per cell @ 77°F (25°C). Values listed represent 100% of the cell's capacity. Initial capacity shall be minimum of 90% of these values per IEEE 450.



## Internal Resistance and Short Circuit Current

PowerSafe® DU Battery Type	Resistance*	Isc
	milliohms	Amps
4DU-05	0.52	3850
4DU-07	0.36	5560
4DU-09	0.27	7410
4DU-11	0.22	9090
4DU-13	0.19	10640

\*Resistance values are for reference only (not intended to represent an ohmic value or base line measurement).



## Constant Current

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.75 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	169	131	108	80.7	65.1	55.2	38.7	31.9	27.6	16.2	6.6
4DU-07	395	238	182	149	109.4	87.0	72.7	49.5	40.6	34.6	19.2	7.2
4DU-09	625	336	262	216	161.5	130.3	110.5	77.9	64.4	55.7	32.9	13.6
4DU-11	715	406	313	257	191.7	153.2	129.0	89.3	73.6	63.2	36.3	14.4
4DU-13	780	472	360	293	216.6	172.4	143.8	97.6	80.1	68.4	37.7	14.1

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.80 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	158	125	104	79.5	64.9	55.2	38.7	31.9	27.6	16.2	6.6
4DU-07	395	218	169	140	104.8	84.5	71.3	49.1	40.5	34.6	19.2	7.2
4DU-08	625	308	245	205	157.5	129.0	110.2	77.9	64.4	55.7	32.9	13.6
4DU-11	715	371	291	242	183.7	148.9	126.4	88.6	73.3	63.2	36.3	14.4
4DU-13	780	428	332	274	204.7	164.5	138.4	94.9	78.4	67.2	37.4	14.1

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.84 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	142	114	97	74.6	61.5	52.7	37.5	31.3	27.1	16.1	6.6
4DU-07	395	193	153	127	96.4	78.2	66.3	45.8	37.9	32.6	18.3	7.0
4DU-09	625	275	222	188	146.4	121.0	104.0	74.5	62.3	54.3	32.5	13.6
4DU-11	715	329	263	221	169.2	138.6	118.3	83.0	69.3	60.0	35.0	14.0
4DU-13	780	377	298	248	187.0	151.7	128.4	88.3	73.3	63.0	35.3	13.3

\*Values listed represent 100% of the cell's capacity. Initial capacity shall be a minimum of 90% of these values per IEEE 450.  
<sup>1</sup>1.215 S.G. electrolyte at 77°F (25°C) includes intercell connector drop. Nominal Ah capacity is based on an 8 hour rate to 1.75 volts per cell @ 77°F (25°C).

## Constant Current

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.86 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	132	107	91	70.9	58.7	50.5	35.9	30.1	26.2	15.6	6.5
4DU-07	395	178	142	119	90.6	73.9	62.6	43.2	36.0	31.0	17.5	6.7
4DU-09	625	254	207	177	138.2	114.9	99.1	70.9	59.7	52.2	31.5	13.2
4DU-11	715	303	244	206	159.2	131.0	112.2	78.8	66.1	57.4	33.6	13.5
4DU-13	780	347	276	231	175.3	142.5	120.8	83.5	69.6	59.9	33.7	12.7

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.88 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	120	99	85	66.2	55.1	47.5	33.8	28.5	24.9	14.9	6.2
4DU-07	395	161	130	109	83.7	68.5	58.2	40.2	33.6	29.0	16.4	6.3
4DU-09	625	231	190	163	128.2	107.2	92.9	66.4	56.3	49.4	29.9	12.5
4DU-11	715	274	223	190	147.1	121.7	104.5	73.5	61.9	54.0	31.8	12.7
4DU-13	780	312	251	211	161.1	131.9	112.0	77.5	64.7	55.9	31.6	11.9

### PowerSafe® DU Battery Constant Current Discharge Rates (Amps to 1.90 Vpc at 77°F / 25°C - 1.215 S.G.)\*

PowerSafe® DU Battery Type	Nominal <sup>1</sup> Capacity (Ah)	Hours										
		1	15	2	3	4	5	8	10	12	24	72
4DU-05	310	107	89	77	60.6	50.7	43.8	31.1	26.4	23.2	14.0	5.8
4DU-07	395	143	116	98	75.5	61.9	52.8	36.6	30.6	26.5	15.1	5.7
4DU-09	625	204	170	147	116.8	98.2	85.2	60.9	52.0	45.8	28.0	11.7
4DU-11	715	242	199	170	133.0	110.6	95.2	67.1	56.9	49.7	29.4	11.8
4DU-13	780	275	222	188	144.9	118.8	101.1	70.3	59.0	51.1	29.0	11.0

\*Values listed represent 100% of the cell's capacity. Initial capacity shall be a minimum of 90% of these values per IEEE 450.  
<sup>1</sup>1.215 S.G. electrolyte at 77°F (25°C) includes intercell connector drop. Nominal Ah capacity is based on an 8 hour rate to 1.75 volts per cell @ 77°F (25°C).