

Solition Data Center

Technical data sheet

Technical features:

- Design life: up to 15 years at 25 °C (until 70 % nominal capacity)
- Safe and stable LiFePO₄ technology
- Include fire protecting system at module level
- Specially designed for fast-discharge applications (UPS / Datacenters): Power from 50 kW / 60 min to 300 kW / 10 min (1C to 6C)
- Wide voltage range (384 to 600V nominal) and wide temperature range (0 to 40 °C)
- Wide range of applications in stand-alone mode or with Modbus communication

Standards & certifications:

- IP21 according to IEC60529 standard
- UN38.3 approval for transport of dangerous goods
- Approval UL1942 & UL1973
- Successfully completed UL 9540A fire test
- LVD, RoHS and EMC EU directives compliant



Design life
up to 15 years



Nominal capacity
162 Ah



Up to
5,000 cycles



UL9540A
fire test



Maintenance-free



Special high current
performances:
1C to 6C



Recyclable

Technical characteristics and data

Items	Description
Product model	LI-Ion Data Center 1.0
Battery cell material	LiFePO ₄
Charging rate	≤ 1C, 0.5C by default
Cycle life	Up to 5000 cycles @ 50 % DoD @ 25 °C
Nominal capacity	162 Ah / 62.20 kWh [6+6] – 162 Ah / 72.57 kWh [7+7] – 162 Ah / 82.94 kWh [8+8]
Capacity for calculating the backup time *	153 Ah / 58.75 kWh [6+6] – 153 Ah / 68.54 kWh [7+7] – 153 Ah / 78.33 kWh [8+8]
Weight	900 kg [6+6] – 1000 kg [7+7] – 1100 kg [8+8]
Dimension (W*D*H)	600 x 850 x 2000 mm
Self discharge	≤ 5 % / 3 months @ 0 to 30 °C
Fire protection	Module-level: Perfluorohexanone fire suppression fluid
Communication interface	RS485, Dry contacts, TCP IP, MODBUS on RS485 & MODBUS over TCP IP
Protection	Over temperature, over current, short circuit, overcharge, discharge, etc.
Charge voltage **	2.30Vpc @ 25 °C - 32 to 50 AGM blocks - 442V to 690V depending on the configuration
Discharge capability	1C to 6C: 60 min @ 50 kW or 10 min @ 300 kW ([7+7] cabinet from 16 to 30 °C)
IP Protection level	IP21 according to IEC60529 standard
Mounting type	Against the wall, reserve at least 800 mm from the front
Storage temperature	0 °C to 40 °C
Transportation temperature	-40 °C to 60 °C
Operating temperature	0 °C to 40 °C (20 to 25 °C is recommended)
Relative humidity	5 % to 95 % (no condensation)
Max. operating altitude	4000 m, derating is required if the altitude exceeds 1000 m
Heat dissipation at rated power***	[8+8] cabinet: 2.65kW - [7+7] cabinet: 2.35kW - [6+6] cabinet: 2.05kW

* The backup time is calculated based on the capacity 68.54 kWh and the capacity under different backup time or discharge rates

** UPS with neutral battery connection are limited to 7+0 or 7+7 configuration

*** Based on 8 hours cooling time

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Specifications

Configuration	Cell	Module	Half Cabinet 1 string	Full Cabinet 2 strings
Nominal capacity	27 Ah	81 Ah	81 Ah	162 Ah
Capacity for calculating the backup time	25.5 Ah	76.5 Ah	76.5 Ah	153 Ah
Nominal voltage	3.2Vpc	64Vpc	384Vpc [6+0]	384Vpc [6+6]
			448Vpc [7+0]	448Vpc [7+7]
			512Vpc [8+0]	512Vpc [8+8]
Charging voltage	3.4Vpc	68Vpc	408Vpc [6+0]	408Vpc [6+6]
			476Vpc [7+0]	476Vpc [7+7]
			544Vpc [8+0]	544Vpc [8+8]
Dimension (W x D x H)	21 x 100 x 140 mm	210 x 765 x 160 mm	600 x 850 x 2000 mm	600 x 850 x 2000 mm
Weight (kg)	0.605 kg	50 kg	600 kg [6+0]	900 kg [6+6]
			650 kg [7+0]	1000 kg [7+7]
			700 kg [8+0]	1100 kg [8+8]

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Discharge data

The Solution Data Center provides best-in-class discharge performance; for instance, for a 540V nominal/600 kW installation, two full cabinets deliver 10 minutes of back-up time.

The BCU optimizes the currents (closed loop control) and voltages of each module and cabinet to maximize performance and increase service life.

Back-up time (min) 16-30 °C - [6+6] - 250 kW																				
Modules	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Power Cabinet	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10
125 kW	11	23	37	49	61	74	86	98	111	123										
250 kW		10	17	22	30	36	42	48	54	60	66	72	78	84	90	97	103	109	115	121
375 kW			10	15	19	22	26	32	36	40	44	48	52	56	60	64	68	72	76	80
500 kW				10	13	17	20	22	25	30	33	36	39	42	45	48	51	54	57	60
625 kW					10	13	16	18	20	22	25	27	31	34	36	38	41	43	46	48
750 kW						10	12	15	17	19	21	22	24	26	30	32	34	36	38	40
875 kW							10	12	14	16	18	19	21	22	24	26	29	31	32	34
1000 kW								10	12	13	15	17	18	20	21	22	24	25	27	30
1125 kW									10	12	13	15	16	17	19	20	21	22	24	25
1250 kW										10	11	13	14	16	17	18	19	20	21	22
1375 kW											10	11	12	13	15	16	17	18	19	20
1500 kW												10	11	12	13	15	16	17	18	19
1625 kW													10	11	12	13	15	15	16	17
1750 kW														10	11	12	13	14	15	16
1875 kW															10	11	12	13	13	15
2000 kW																10	11	12	12	13

Back-up time (min) 16-30 °C - [7+7] - 300 kW																				
Modules	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140
Power Cabinet	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10
150 kW	10	22	36	48	60	72	84	96	108	120										
300 kW		10	16	22	29	35	41	47	53	59	64	70	76	82	88	94	100	106	112	117
450 kW			10	14	18	22	26	31	35	39	43	47	51	55	59	62	66	70	74	78
600 kW				10	13	16	19	22	25	29	32	35	38	41	44	47	50	53	56	59
750 kW					10	12	15	17	20	22	24	26	30	33	35	37	40	42	44	47
900 kW						10	12	14	16	18	20	22	24	26	29	31	33	35	37	39
1050 kW							10	12	13	15	17	19	20	22	23	25	27	30	32	33
1200 kW								10	11	13	15	16	18	19	20	22	23	25	26	29
1350 kW									10	11	12	14	16	17	18	19	21	22	23	24
1500 kW										10	11	12	13	15	16	17	19	20	21	22
1650 kW											10	11	12	13	15	16	17	18	19	20
1800 kW												10	11	12	13	14	15	16	17	18
1950 kW													10	11	12	12	13	15	16	17
2100 kW														10	11	12	12	13	15	15
2250 kW															10	11	11	12	13	14
2400 kW																10	11	11	12	13

The initial backup time is accurate to ±5%. For other configurations please contact your local Exide contact

Solution Data Center

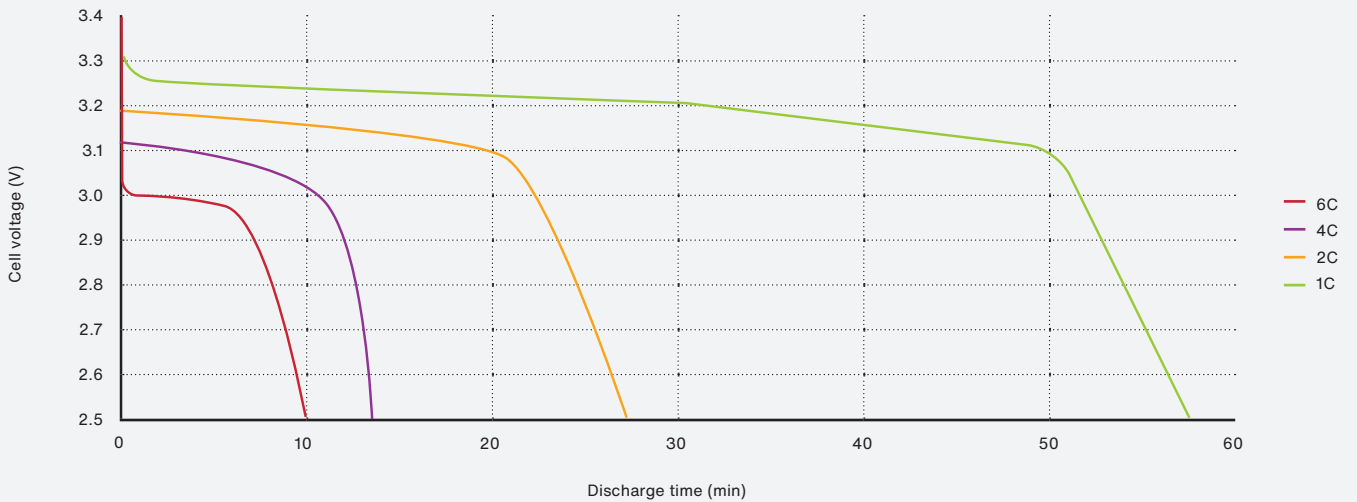
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Discharge data

Back-up time (min) 16-30°C - [8+8] - 300 kW																				
Modules	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
Power Cabinet	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10
150 kW	12	26	41	55	68	82	96	110	123											
300 kW		12	19	25	33	40	47	53	60	67	74	80	87	94	101	107	114	121	128	
450 kW			12	17	21	25	31	36	40	44	49	53	58	62	67	71	76	80	85	89
600 kW				12	15	19	22	25	30	33	37	40	43	47	50	53	57	60	64	67
750 kW					12	15	17	20	22	25	29	32	35	37	40	43	45	48	51	53
900 kW					10	12	14	17	19	21	23	25	27	31	33	36	38	40	42	44
1050 kW						10	12	13	16	18	20	21	23	25	27	30	32	34	36	38
1200 kW							10	12	13	15	17	19	20	22	23	25	27	30	32	33
1350 kW								10	12	13	15	17	18	19	21	22	24	25	26	30
1500 kW									10	12	13	15	16	17	19	20	21	22	24	25
1650 kW										10	12	13	15	16	17	18	19	20	22	23
1800 kW										10	11	12	13	14	15	17	18	19	20	21
1950 kW											10	11	12	12	14	15	16	17	18	19
2100 kW												10	11	12	12	13	15	16	17	18
2250 kW													10	11	12	12	13	15	16	17
2400 kW														10	11	12	12	13	15	15

The initial backup time is accurate to ±5%. For other configurations please contact your local Exide contact

Discharge curve



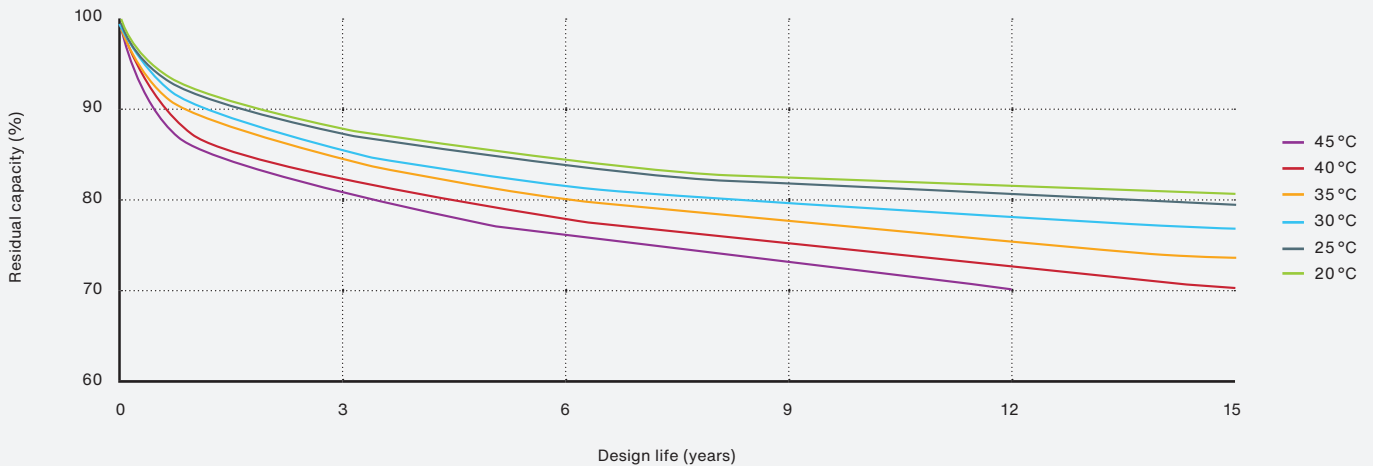
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Life characteristics

The Solution Data Center has a design life of up to 15 years, from 0 to 40 °C, and is the perfect product or product range for UPS requirements. In addition to outstanding stability, the LiFePO₄ technology allows the energy storage system to reach an outstanding lifespan of around 5,000 cycles at 50 % DoD.

Design life



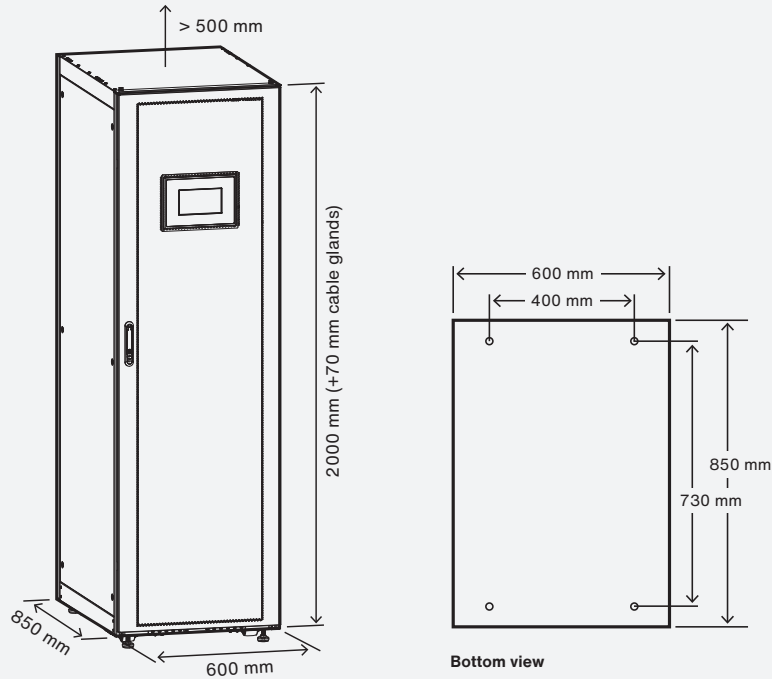
Cycle life

Battery status	Charge rate/discharge rate @ temperature	DOD	Expected cycle life			
			25 °C	30 °C	35 °C	40 °C
EOL 70 %	0.5C/1C	25%	11200	10487	9774	7123
		50%	5850	5478	5106	3720
		75%	4000	3746	3492	2544
		100%	3000	2810	2620	1908
	0.5C/1C	25%	9500	8893	8290	6039
		50%	4650	4353	4058	2956
		75%	3200	2996	2793	2034
		100%	2380	2229	2078	1513
	0.5C/3C	25%	7103	6651	6199	4513
		50%	3477	3256	3035	2209
		75%	2393	2241	2089	1520
		100%	1780	1667	1554	1131
	0.5C/4C	25%	3800	3555	3310	2413
		50%	1800	1684	1568	1143
		75%	1200	1123	1046	762
		100%	1000	936	872	635
	0.5C/4C	25%	2500	2298	2140	1561
		50%	1200	1102	1027	749
		75%	800	735	685	500
		100%	650	598	558	407
	0.5C/6C	25%	1200	1040	969	707
		50%	600	520	485	354
		75%	400	346	323	236
		100%	300	260	243	178

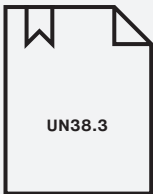
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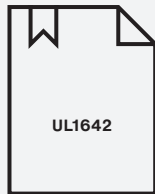
Drawings



Norms and certificates



UN38.3
Transport of dangerous goods: Lithium-metal and lithium-ion batteries



UL1642
UL Standard for safety lithium-ion batteries



UL1973
UL Standard for safety batteries for use in stationary and motive auxiliary power applications



UL9540A
UL Standard for safety test method for evaluating thermal runaway fire propagation in Battery Energy Storage Systems



IEC62619
Secondary cells and batteries containing alkaline or other non-acid electrolytes – safety requirements for secondary lithium cells and batteries, for use in industrial applications



IEC62133
Secondary cells and batteries containing alkaline or other non-acid electrolytes – safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications



IEC62477
Safety requirements for power electronic converter systems and equipment



2014/35/EU
Low voltage directive (LVD) – CE marking



2002/95/CE
Restriction of hazardous substances in electrical and electronic equipment directive (RoHS)



2014/30/EU
Electromagnetic compatibility (EMC) directive