

ESG Series

2V SMF VRLA Battery



Technical features

- AGM technology is applied.
- 20+ years design life under floating application
- Reliable seal performance, no acid spillage, recombination efficiency reach 99%
- Initial capacity above 100%, the remaining capacity above 94% after storage for 3 months (25°C)
- Flexible connectors and convenient installation

Products characteristics

- Nominal Voltage: 2V
- Max Charging Current Allowed: 0.25C₁₀A
- Electrolyte: 1.300g/cm³
- Design life: 20+years (20°C)
- Float Voltage: 2.25V/cell(25°C)
- Equalization Voltage: 2.35V/cell
- Self discharge <2% per month(68°F (20°C))
- Terminal torque: 15± 1.0 N • m
- Container Material: ABS (V0 optional)

Range summary

The ESG range of SMF VRLA batteries offers outstanding performance including a 20+ year design life. Built to the highest standards and compliant with the latest IEC60896-21/22 standard this range also offers 100% capacity out-of-the-box and is capable of handling deep discharges for complete peace of mind. The use of flexible connectors and the ability to be installed both horizontally and vertically allows for multiple installation possibilities.

General features

- Better discharge characteristic than normal SMF VRLA batteries.
- Non-spillable construction design.
- Safety valve installation for explosion proof.
- Higher safety & reliable construction.
- Extra durability and deep cycle ability for heavy demand applications.
- Low self-discharge characteristic.
- Flexibility design for multiple installation.

Main applications

- Telecommunication
- UPS Systems
- Process plant and power transformer system
- Navigation and signalling systems
- Emergency lighting systems
- Solar energy systems (SPV)
- Radio and broadcasting systems

Compliant standards

- IEC60896-21/22
- BS6290 Part 4
- Telcordia SR4228
- Eurobat guide
- UL
- Manufactured under system ISO9001 (TUV)

Rocket ESG series SMF VRLA Battery specification

Cell Type	Nominal voltage (V)	Rated Capacity (Ah)	Dimensions (mm)	Height with terminal	Weight (kg)
		C ₁₀ C ₅ C ₁	Length Width Height		
ESG-200	2	200 150 110	94.5 38.3 33.1	26.4	21.9
ESG-300	2	300 225 165	123 53.5 32.2	25.5	21.3
ESG-400	2	400 300 220	166 50.3 35.2	30.9	24.8
ESG-500	2	500 375 275	194.5 54.7 37.2	28.8	23.1
ESG-600	2	600 450 330	223 55.6 38.3	32.0	14.4
ESG-800	2	800 600 440	254 55.6 38.3	32.0	14.4
ESG-1000	2	1000 750 550	333 55.6 38.3	32.0	14.4
ESG-1200	2	1200 900 660	383 55.6 38.3	32.0	14.4
ESG-1500	2	1500 1125 825	457 55.6 38.3	32.0	14.4
ESG-2000	2	2000 1500 1100	594 55.6 38.3	32.0	14.4

ESG Series

Constant Current Discharge Characteristics Units : Amperes (25°C, 77°F)

Type	End voltage per cell	5min	15min	30min	1h	2h	3h	5h	6h	8h	10h	24 hour
ESG-200	1.60V	333.3	279.1	206.7	130.7	77.0	56.5	38.3	33.1	26.4	21.9	9.8
	1.70V	287.8	244.0	182.2	118.4	72.5	53.5	37.1	32.2	25.5	21.3	9.8
	1.75V	274.3	231.0	169.3	112.9	69.9	51.9	36.0	31.7	25.2	21.0	9.5
	1.80V	263.8	217.8	158.4	105.7	66.9	50.3	35.2	30.9	24.8	20.6	9.3
	1.85V	233.6	193.1	141.2	95.4	60.4	47.7	34.0	29.9	24.0	20.0	9.0
ESG-300	1.60V	500.0	418.7	310.1	196.0	115.5	84.8	57.5	49.6	39.6	32.8	14.6
	1.70V	431.8	366.0	273.2	177.6	108.7	80.3	55.6	48.3	38.3	32.0	14.4
	1.75V	411.4	346.5	253.9	169.3	104.9	77.8	54.1	47.5	37.8	31.5	14.3
	1.80V	395.7	326.7	237.6	158.6	100.4	75.4	52.8	46.3	37.1	30.8	14.0
	1.85V	350.4	289.7	211.9	143.2	90.6	71.6	51.0	44.8	36.1	30.0	13.6
ESG-400	1.60V	666.6	558.3	413.4	261.4	154.9	113.0	76.7	66.1	52.7	43.8	19.5
	1.70V	575.7	488.0	364.3	236.8	144.9	107.1	74.1	64.4	51.1	42.7	19.3
	1.75V	548.6	462.0	339.6	225.7	139.9	103.8	72.1	63.4	50.5	42.1	19.0
	1.80V	527.6	435.6	318.8	211.5	133.8	100.6	70.4	61.8	49.5	41.1	18.7
	1.85V	467.2	386.3	282.5	190.9	120.8	95.4	68.0	59.8	48.1	40.0	18.1
ESG-500	1.60V	833.3	697.9	516.8	326.7	192.6	141.3	95.8	82.7	65.9	54.7	24.4
	1.70V	719.6	610.0	455.4	296.0	181.2	133.8	92.7	80.5	63.9	53.4	24.1
	1.75V	685.7	577.5	423.2	282.2	174.8	129.7	90.1	79.2	63.1	52.6	23.8
	1.80V	659.6	544.5	396.0	264.3	167.3	125.7	88.0	77.2	61.9	51.4	23.3
	1.85V	584.0	482.8	353.1	238.6	151.0	119.3	85.0	74.7	60.1	50.0	22.6
ESG-600	1.60V	999.9	837.4	620.1	392.0	231.1	169.5	115.0	99.2	79.1	65.7	29.3
	1.70V	863.5	732.1	546.5	355.2	217.4	160.6	111.2	96.6	76.6	64.0	28.9
	1.75V	822.8	693.0	507.9	338.6	209.8	155.6	108.1	95.0	75.7	63.1	28.5
	1.80V	791.5	653.4	475.2	317.2	200.8	150.9	105.6	92.7	74.3	61.7	28.0
	1.85V	700.8	579.4	423.7	286.3	181.2	143.2	102.0	89.7	72.1	60.0	27.1
ESG-800	1.60V	1158.3	974.6	792.0	521.9	320.8	235.5	154.0	132.7	103.9	88.0	39.9
	1.70V	1020.8	868.1	660.5	468.1	301.0	218.9	148.3	127.9	101.5	84.2	39.1
	1.75V	963.0	817.1	609.0	441.9	289.9	213.8	145.7	126.0	100.1	83.5	38.8
	1.80V	909.7	762.0	570.2	419.8	281.2	209.1	142.4	123.6	98.2	82.4	38.0
	1.85V	781.1	648.2	501.3	370.7	253.4	191.8	133.5	116.8	94.2	79.0	36.9
ESG-1000	1.60V	1447.9	1218.3	990.0	652.4	401.0	294.4	192.5	165.8	129.8	107.5	49.8
	1.70V	1276.0	1085.2	825.7	585.1	376.2	273.6	185.3	159.9	126.8	105.2	48.9
	1.75V	1203.7	1021.4	781.3	552.4	362.3	267.3	182.2	157.5	125.1	104.3	48.5
	1.80V	1137.2	952.5	712.8	524.7	351.5	261.4	178.0	154.4	122.8	103.0	47.4
	1.85V	976.3	810.2	626.7	463.3	316.8	239.7	166.8	146.0	117.8	98.8	46.1
ESG-1200	1.60V	1737.5	1461.9	1188.0	782.9	481.1	353.2	230.9	199.0	155.8	129.0	59.8
	1.70V	1531.2	1302.2	990.8	702.1	451.4	328.3	222.4	191.9	152.2	126.3	58.7
	1.75V	1444.4	1225.7	913.6	662.9	434.8	320.8	218.6	189.0	150.1	125.2	58.2
	1.80V	1364.6	1143.0	855.4	629.6	421.7	313.6	213.6	185.3	147.3	123.6	56.9
	1.85V	1171.6	972.3	752.0	556.0	380.2	287.7	200.2	175.2	141.4	118.5	55.3
ESG-1500	1.60V	2171.8	1827.4	1485.0	978.6	601.4	441.5	288.7	248.7	194.7	161.3	74.7
	1.70V	1914.0	1627.7	1238.5	877.6	564.3	410.4	278.0	239.8	190.3	157.9	73.4
	1.75V	1805.5	1532.1	1142.0	828.6	543.5	401.0	273.2	236.3	187.7	156.5	72.7
	1.80V	1705.7	1428.8	1069.2	787.1	527.2	392.0	267.0	231.7	184.1	154.4	71.2
	1.85V	1464.5	1215.4	940.0	695.0	475.2	359.6	250.2	219.0	176.7	148.1	69.1
ESG-2000	1.60V	2895.8	2436.6	1980.0	1304.8	801.9	588.7	384.9	331.7	259.6	215.0	99.7
	1.70V	2552.0	2170.3	1651.3	1170.2	752.4	547.1	370.7	319.8	253.7	210.5	97.8
	1.75V	2407.4	2042.8	1522.6	1104.8	724.7	534.6	364.3	315.1	250.2	208.7	96.9
	1.80V	2274.3	1905.1	1425.6	1049.4	702.9	522.7	356.0	308.9	245.5	205.9	94.9
	1.85V	1952.6	1620.5	1253.3	926.6	633.6	479.5	333.6	292.1	235.6	197.5	92.2

Discharge Data with Constant Power Units : Watts per cell (25°C, 77°F)

Type	End voltage per cell	5min	15min	30min	1h	2h	3h	5h	6h	8h	10h	24 hour
ESG-200	1.60V	566.6	474.5	377.9	269.3	173.7	128.7	85.0	72.6	56.7	46.3	21.2
	1.70V	518.1	439.2	348.5	236.9	154.8	116.5	80.2	68.9	53.5	43.9	20.1
	1.75V	501.9	422.7	336.6	227.7	149.3	112.2	78.2	67.3	51.5	43.2	19.8
	1.80V	488.1	402.9	324.7	222.4	146.5	108.2	76.0	65.3	50.2	42.6	19.5
	1.85V	443.9	367.0	288.8	202.3	134.6	102.5	72.5	61.9	48.5	40.9	18.8
ESG-300	1.60V	391.7	318.5	243.5	174.2	116.8	95.0	67.7	57.8	45.4	38.0	18.0
	1.60V	849.9	711.8	568.8	403.9	260.6	193.1	127.5	108.9	85.1	69.5	31.9
	1.70V	777.2	658.8	522.7	355.4	232.2	174.7	120.3	103.4	80.2	65.8	30.2
	1.75V	752.9	634.1	504.9	341.6	223.9	168.3	117.3	101.0	77.2	64.8	29.7
	1.80V	732.1	604.4	487.1	333.6	219.8	162.4	114.0	98.0	75.2	63.9	29.3
ESG-400	1.85V	665.8	550.4	433.1	303.4	202.0	153.7	108.7	92.8	72.8	61.4	28.1
	1.90V	587.6	477.7	385.3	261.4	175.2	142.6	101.6	86.7	68.1	56.9	27.0
	1.60V	1133.2	949.1	755.7	538.6	347.5	257.4	170.0	145.2	113.5	92.7	42.5
	1.70V	1036.2	878.5	697.0	473.9	309.5	233.0	160.4	137.8	106.9	87.8	40.2
	1.75V	1003.9	845.5	673.2	455.4	298.6	224.4	156.4	134.6	103.0	86.5	39.6
ESG-500	1.80V	976.1	805.9	649.4	444.8	293.0	216.5	152.1	130.7	100.3	85.1	39.0
	1.85V	887.7	733.9	577.5	404.6	269.3	205.0	144.9	123.8	97.0	81.8	37.5
	1.90V	783.4	636.9	487.1	348.5	233.6	190.1	135.4	115.6	90.8	75.9	36.0
	1.60V	1416.5	1186.4	944.6	673.2	434.4	321.8	212.5	181.5	141.9	115.8	53.1
	1.70V	1295.3	1098.1	871.2	592.4	386.9	291.2	200.5	172.3	133.7	109.7	50.3
ESG-600	1.75V	1254.8	1056.8	841.5	569.3	373.2	280.5	195.5	168.3	128.7	108.1	49.5
	1.80V	1220.2	1007.3	811.8	556.1	366.3	270.6	190.1	163.4	125.4	106.4	48.8
	1.85V	1109.6	917.4	721.9	505.7	336.6	256.2	181.2	154.7	121.3	102.3	46.9
	1.90V	979.3	796.1	608.9	435.6	292.1	237.6	169.3	144.5	113.5	94.9	45.0
	1.60V	1699.8	1423.6	1133.6	807.8	521.2	386.1	255.0	217.8	170.2	139.0	63.7
ESG-800	1.70V	1554.3	1317.7	1045.4	710.8	464.3	349.5	240.6	206.7	160.4	131.7	60.3
	1.75V	1505.8	1268.2	1009.8	663.1	447.9	336.6	234.6	202.0	154.4	129.7	59.4
	1.80V	1464.2	1208.8	974.2	667.3	439.6	324.7	228.1	196.0	150.5	127.7	58.5
	1.85V	1331.6	1100.9	866.3	606.9	403.9	307.5	217.4	185.6	145.5	122.8	56.3
	1.90V	1175.1	955.4	730.6	522.7	350.5	285.1	203.1	173.4	136.1	113.9	54.0
ESG-1000	1.60V	1969.1	1658.9	1369.4	998.7	635.2	471.2	320.8	282.0	229.7	190.1	85.5
	1.70V	1837.4	1562.6	1273.1	930.6	584.7	449.9	306.5	269.3	221.0	183.7	82.7
	1.75V	1762.2	1495.3	1196.9	877.5	559.2	441.1	301.0	261.4	216.2	182.2	82.0
	1.80V	1683.0	1409.8	1118.7	807.8	536.6	427.7	293.0	255.8	211.5	179.0	80.5
	1.85V	1484.0	1231.6	966.2	692.2	499.0	403.9	277.2	241.6	199.4	169.5	76.3
ESG-1200	1.90V	1247.4	997.9	790.0	586.9	449.9	368.3	259.0	228.1	186.9	159.5	71.8
	1.60V	2461.4	2071.1	1711.7	1248.4	794.0	589.1	401.0	352.4	287.1	237.6	106.9
	1.70V	2296.8	1953.3	1591.4	1163.3	730.9	562.3	383.1	336.8	276.2	229.7	103.4
	1.75V	2202.8	1869.1	1496.1	1096.9	698.5	551.4	376.2	326.7	270.3	227.7	102.5
	1.80V	2103.8	1762.2	1398.4	1009.8	673.2	534.6	366.3	319.8	264.3	223.7	100.7
ESG-1500	1.85V	1855.0	1539.5	1207.8	865.3	623.7	504.9	346.5	302.0	249.3	211.9	95.3
	1.90V	1559.3	1247.4	987.5	735.6	562.3	460.4	323.7	285.1	233.6	199.4	89.7
	1.60V	2984	2510	2075	1513	962.4	714.0	486.0	427.2	348.0	288.0	126.6
	1.70V	2784	2368	1929	1410	885.9	681.6	464.4	408.0	334.8	278.4	121.8
	1.75V	2670	2266	1814	1330	847.2	668.4	456.0	396.0	327.6	276.0	120.6
ESG-2000	1.80V	2550	2136	1695	1224	816.0	648.0	444.0	387.6	320.4	271.2	118.8
	1.85V	2249	1886	1464	1049	756.0	612.0	420.0	366.0	302.2	256.8	114.0
	1.90V	1890	1512	1197	889.2	681.6	558.0	392.4	345.6	283.2	241.7	108.8
	1.60V	3692.1	3106.8	2567.6	1872.6	1191.0	883.6	601.4	528.7	430.7	356.4	160.4
	1.70V	3445.2	2929.9	2387.1	1744.9	1096.3	843.5	574.7	504.9	414.3	344.5	155.0
ESG-1500	1.75V	3304.1	2803.7	2242.2	1645.4	1048.4	827.1	564.3	490.1	405.4	341.6	153.7
	1.80V	3155.6	2643.3	2097.6	1514.7	1009.8	801.9	549.5	479.7	396.5	335.6	151.0
	1.85V	2782.5	2309.2	1811.7	1297.9	935.6	757.4	519.8	452.9	373.9	317.8	143.0
	1.90V	2338.9	1871.1	1481.3	1100.4	843.5	690.5	485.6	427.7	350.5	299.1	134.6
	1.60V	4922.8	4142.2	3423.4	2496.8	1588.0	1178.1	801.9	704.9	574.2	475.2	213.8
ESG-2000	1.70V	4593.6	3906.5	3182.9	2326.5	1461.7	1124.6	769.3	673.2	552.4	459.4	206.7
	1.75V	4405.5	3738.2	2992.3	2193.8	1397.9	1102.9	752.4	653.4	540.5	455.4	204.9
	1.80V	4207.5	3524.4	2796.8	2019.6	1346.4	1069.2	732.6	639.5	526.7	447.5	201.4
	1.85V	3710.0	3078.9	2415.6	1730.5	1247.4	1009.8	693.0	603.9	498.6	423.7	190.7
	1.90V	3118.5	2494.8	1975.1	1467.2	1124.6	920.7	647.5	570.2	467.3	398.8	179.4