

SolarPack SP-G

Sealed VRLA Monobloc Gel Battery

20-300Ah (C100), over 2,000 cycles at 40% DOD

- sealed
- maintenance-free
- deep cycle
- valve-regulated
- gel lead acid
- fully recyclable GVR
- design life: 15+ years in float service
- manufactured to comply with DIN 40736 part 3

Applications

- photovoltaic/solar/wind
- telecommunications
- cycling/float service
- wheelchair/electric vehicle
- boats/marine/navigational aids
- engine starting
- golf caddy
- portable medical equipment
- cathodic protection

Features

- gelled Thixotropic electrolyte
- central point gassing system
- valve-regulated lead acid with optional mini-catalyst
- multi-position usage
- low self-discharge
- complies with BS 6290 Part 4 (with V-0 option)
- FAA and IATA approved as non-hazardous
- flame retardant material V-0



Specifications

nominal voltage	6 and 12 V
charge voltage	cycle: 2.35VPC; float: 2.25VPC @ 20/25°C
plate alloy	lead calcium/tin grid alloy
container/case	grade 6 ABS
specific gravity	1.280
electrolyte	sulphuric acid thixotropic gel
vent	self-sealing, 2 PSI operation

Discharge time in hours: Capacity in Amp hours at 20°C | for stationary and solar/cyclic applications

Type	End / Final VPC	Discharge time in hours → Capacity in Ah at 20°C															End / Final VPC	Time [min] → Cap. Ah at 20°C			Short Circuit Current [A]	Internal Resistance [Ω]
		100	72	48	24	20	12	10	8	6	5	4	3	2	1.5	1		45'	30'	15'		
LORENTZ SP-G 6-130	1.85	126	122	118	113	109	100	98.3	96.8	88.4	85.4	82.5	78.5	72.5	64.6	63.0	1.80	76.2	102	159	3,200	3.0
	1.80	130	126	122	118	117	107	105	103	93.8	90.7	87.5	83.3	76.9	68.5	64.5	1.75	78.5	106	173		
	1.75	133	129	125	122	120	110	108	105	96.1	92.9	89.6	85.3	78.8	70.2	65.0	1.67	78.9	108	182		
LORENTZ SP-G 6-220	1.85	210	203	196	188	182	167	164	161	147	142	137	131	121	108	105	1.80	127	170	265	5,000	2.3
	1.80	217	210	204	197	194	179	175	171	156	151	146	139	128	114	108	1.75	131	176	288		
	1.75	221	215	209	203	200	184	180	175	160	155	149	142	131	117	108	1.67	131	180	303		
LORENTZ SP-G 6-250	1.85	242	234	226	216	209	192	188	185	169	164	158	150	139	124	121	1.80	146	196	305	5,400	2.1
	1.80	250	242	234	227	224	205	202	197	180	174	168	160	147	131	124	1.75	151	202	331		
	1.75	255	247	240	233	230	211	207	202	184	178	172	164	151	135	125	1.67	151	207	348		
LORENTZ SP-G 12-20	1.85	17.9	17.3	16.7	16.0	15.6	14.2	13.9	13.7	12.5	12.1	11.7	11.1	10.3	9.1	8.9	1.80	10.8	14.5	22.6	750	12
	1.80	18.4	17.9	17.3	16.8	16.5	15.2	14.9	14.5	13.3	12.8	12.4	11.8	10.9	9.7	9.1	1.75	11.1	15.0	24.5		
	1.75	18.8	18.3	17.7	17.3	17.0	15.6	15.3	14.9	13.6	13.2	12.7	12.1	11.2	9.9	9.2	1.67	11.2	15.3	25.7		
LORENTZ SP-G 12-30	1.85	27.3	26.4	25.5	24.4	23.9	21.7	21.3	21.0	19.2	18.5	17.9	17.0	15.7	14.0	13.6	1.80	16.5	22.1	34.5	1,100	8.2
	1.80	28.2	27.3	26.5	25.6	25.3	23.2	22.8	22.2	20.3	19.6	19.0	18.0	16.7	14.8	14.0	1.75	17.0	22.9	37.4		
	1.75	28.8	28.0	27.1	26.4	26.0	23.9	23.4	22.8	20.8	20.1	19.4	18.5	17.1	15.2	14.1	1.67	17.1	23.4	39.3		
LORENTZ SP-G 12-40	1.85	32.6	31.5	30.4	29.1	28.5	25.9	25.4	25.0	22.8	22.1	21.3	20.3	18.7	16.7	16.3	1.80	19.7	26.4	41.2	1,500	7.3
	1.80	33.6	32.6	31.6	30.6	30.1	27.7	27.2	26.5	24.2	23.4	22.6	21.5	19.9	17.7	16.7	1.75	20.3	27.3	44.7		
	1.75	34.3	33.3	32.4	31.5	31.0	28.5	27.9	27.2	24.8	24.0	23.2	22.0	20.4	18.1	16.8	1.67	20.4	27.9	46.9		
LORENTZ SP-G 12-50	1.85	44.2	42.7	41.2	39.4	38.2	35.1	34.4	33.9	31.0	29.9	28.9	27.5	25.4	22.6	22.0	1.80	26.7	35.7	55.8	1,700	6.0
	1.80	45.6	44.2	42.8	41.4	40.8	37.5	36.8	35.9	32.8	31.7	30.6	29.1	26.9	24.0	22.6	1.75	27.5	37.0	60.5		
	1.75	46.5	45.2	43.8	42.6	42.0	38.6	37.8	36.8	33.6	32.5	31.4	29.9	27.6	24.6	22.7	1.67	27.6	37.8	63.6		
LORENTZ SP-G 12-60	1.85	57.8	55.9	54.0	51.6	50.1	45.9	45.0	44.4	40.5	39.2	37.8	36.0	33.2	29.6	28.9	1.80	34.9	46.8	73.0	1,900	5.6
	1.80	59.7	57.8	56.0	54.2	53.5	49.1	48.2	47.0	43.0	41.5	40.1	38.2	35.3	31.4	29.6	1.75	36.0	48.4	79.2		
	1.75	60.9	59.2	57.4	55.8	55.0	50.5	49.5	48.2	44.1	42.6	41.1	39.1	36.1	32.2	29.8	1.67	36.1	49.5	83.2		
LORENTZ SP-G 12-70	1.85	68.4	66.1	63.8	61.0	59.2	54.3	53.2	52.4	47.9	46.3	44.7	42.5	39.3	35.0	34.1	1.80	41.3	55.3	86.3	2,000	5.5
	1.80	70.5	68.3	66.2	64.1	63.2	58.1	57.0	55.6	50.8	49.1	47.4	45.1	41.7	37.1	35.0	1.75	42.5	57.2	94		
	1.75	72.0	69.9	67.9	66.0	65.0	59.7	58.5	57.0	52.1	50.3	48.6	46.2	42.7	38.0	35.2	1.67	42.7	58.5	98		
LORENTZ SP-G 12-80	1.85	73.6	71.2	68.7	65.7	63.7	58.5	57.3	56.5	51.6	49.8	48.1	45.8	42.3	37.7	36.7	1.80	44.4	59.5	92.9	2,100	5.4
	1.80	75.9	73.6	71.3	69.0	68.0	62.5	61.4	59.8	54.7	52.9	51.0	48.6	44.9	40.0	37.6	1.75	45.8	61.6	101		
	1.75	77.5	75.3	73.1	71.1	70.0	64.3	63.0	61.4	56.1	54.2	52.3	49.8	46.0	41.0	37.9	1.67	46.0	63.0	106		
LORENTZ SP-G 12-90	1.85	84.1	81.3	78.5	75.1	72.8	66.8	65.5	64.5	59.0	57.0	55.0	52.3	48.4	43.1	42.0	1.80	50.8	68.0	106	2,400	4.5
	1.80	86.8	84.1	81.4	78.8	77.8	71.5	70.1	68.4	62.5	60.4	58.3	55.5	51.3	45.7	43.0	1.75	52.4	70.4	115		
	1.75	88.6	86.0	83.5	81.2	80.0	73.4	72.0	70.1	64.1	61.9	59.8	56.9	52.6	46.8	43.3	1.67	52.6	71.9	121		
LORENTZ SP-G 12-100	1.85	96.0	92.1	88.3	84.5	81.9	75.2	73.7	72.6	66.3	64.1	61.9	58.9	54.4	48.4	47.2	1.80	57.1	76.5	119	2,650	4.3
	1.80	99.6	95.6	91.6	88.7	87.5	80.4	78.9	76.9	70.4	68.0	65.6	62.5	57.7	51.4	48.4	1.75	58.9	79.2	130		
	1.75	101	97.5	94.0	91.4	90.0	82.6	81.0	78.9	72.1	69.7	67.2	64.0	59.1	52.7	48.7	1.67	59.1	80.9	136		
LORENTZ SP-G 12-110	1.85	105	102	98.1	93.9	91.0	83.5	81.9	80.6	73.7	71.2	68.7	65.4	60.4	53.8	52.5	1.80	63.5	85.0	133	2,900	3.9
	1.80	108	105	102	98.6	97.2	89.3	87.7	85.5	78.2	75.5	72.9	69.4	64.1	57.1	53.8	1.75	65.5	88.0	144		
	1.75	111	108	104	102	100	91.8	90.0	87.7	80.1	77.4	74.7	71.1	65.7	58.5	54.1	1.67	65.7	89.9	151		
LORENTZ SP-G 12-120	1.85	116	112	108	103	100	91.9	90.1	88.7	81.1	78.3	75.6	72.0	66.5	59.2	57.7	1.80	69.8	93.5	146	3,000	3.4
	1.80	119	116	112	108	107	98.3	96.4	94.0	86.0	83.1	80.2	76.3	70.5	62.8	59.2	1.75	72.0	96.8	158		
	1.75	122	118	115	112	110	101	99.0	96.4	88.1	85.1	82.2	78.2	72.3	64.4	59.6	1.67	72.3	98.9	166		
LORENTZ SP-G 12-130	1.85	126	122	118	113	109	109	98.3	96.8	88.4	85.4	82.5	78.5	72.5	64.6	63.0	1.80	76.2	102	159	3,300	3.1
	1.80	130	126	122	118	117	105	103	93.8	90.7	87.5	83.3	76.9	68.5	64.5	1.75	78.5	106	173			
	1.75	133	129	125	122	120	108	105	96.1	92.9	89.6	85.3	78.8	70.2	65.0	1.67	78.9	108	182			
LORENTZ SP-G 12-150	1.85	143	138	133	128	124	114	111	110	100	96.8	93.5	89.0	82.2	73.2	71.4	1.80	86.3	116	181	4,200	2.9
	1.80	148	143	138	134	132	121	119	116	106	103	99.2	94.4	87.2	77.7	73.1	1.75	89.0	120	196		
	1.75	151	146	142	138	136	125	122	119	109	105	102	96.7	89.4	79.6	73.6	1.67	89.4	122	206		
LORENTZ SP-G 12-170	1.85	160	155	149	143	138	127	124	123	112	108	104	99.0	91.9	81.8	79.8	1.80	97	129	202	4,500	2.7
	1.80	166	160	155	150	148	136	133	130	119	115	111	105	97.0	86.8	81.7	1.75	99	134	219		
	1.75	168	163	159	154	152	140	137	133	122	118	114	108	100	88.9	82.3	1.67	100	137	230		
LORENTZ SP-G 12-190	1.85	180	174	168	161	156	143	140	138	126	122	118	112	103	92.0	89.7	1.80	109	145	227	4,600	2.5
	1.80	186	180	174	169	166	153	150	146	134	129	125	119	110	98.0	92.0	1.75	112	150	246		
	1.75	190	184	179	174	171	157	154	150	137	132	128	122	112	100	93.0	1.67	112	154	259		
LORENTZ SP-G 12-210	1.85	200	193	186	178	173	159	156	153	140	135	131	124	115	102	99.7	1.80	121	162	252	4,700	2.3
	1.80	206	200	193	187	185	170	167	162	149	144	139	132	122	108	102	1.75	124	167	274		
	1.75	211	205	198	193	190	174	171	167	152	147	142	135	125	111	103	1.67	125	171	288		
LORENTZ SP-G 12-250	1.85	242	234	226	216	209	192	188	185	169	164	158	150	139	124	121	1.80	146	196	305	5,400	2.2
	1.80	250	242	234	227	224	205	202	197	180	174	168	160	147	131	124	1.75	15				

Valve-regulated (Sealed) Construction

LORENTZ's SP-G batteries are VRLA type – valve-regulated lead-acid – and are fully rechargeable. The acid is immobilised in a mixture of gelling agent and sulphuric acid electrolyte. All acid is absorbed, this provides a safe, non-spillable battery.

Gas Recombination System

In SP-G batteries, more than 99 % of the gasses generated in the normal charge/discharge process of rechargeable batteries are internally recombined during regular operation without any further maintenance needed.

Maintenance

SP-G batteries are designed and built in a way that no electrolyte must be added during the normal lifespan of the battery. There is no need to add water or take time-consuming specific gravity readings.

Battery Life – Float Service

SP-G batteries are suitable for float (stand-by) service with an expected lifespan of ten years at 20°C.

Battery Life – Cycle Service

SP-G batteries are designed for 500 to 3,700 charge/discharge cycles, with the actual number of cycles depending on the depth of discharge.

Safety Valve

If excess pressure builds up within the battery, the safety valve automatically opens and releases gas at 1-3 PSI. SP-G batteries are fitted with optional mini-catalyst to enhance the gas recombination, reduce cell dry-out, lower float current, minimize thermal runaway, positive plate corrosion and negative plate polarization. The valve does not allow the ingress of oxygen which would be harmful to the efficient operation and reduce the lifespan of the battery.

Temperature Range for Normal Operation

SP-G batteries have a wide operating temperature range. However, for maximum lifespan and safety, continuous operation at above 45°C is not recommended for any VRLA battery.

Grid Design and Paste Formulation

LORENTZ has optimized the grid design and paste formulation to maximize the operating and storage lifespan of the battery. This optimized design provides the following advantages:

- excellent recovery from deep discharge or over discharge,
- low self-discharge to ensure maximum storage time when not in use,
- excellent cycling capability, and
- adequate safety margins in tough operating conditions.

Use In Any Position

SP-G batteries are designed to be used in horizontal and vertical positions. These features make SP-G batteries suitable for renewable energy deep cycle applications.

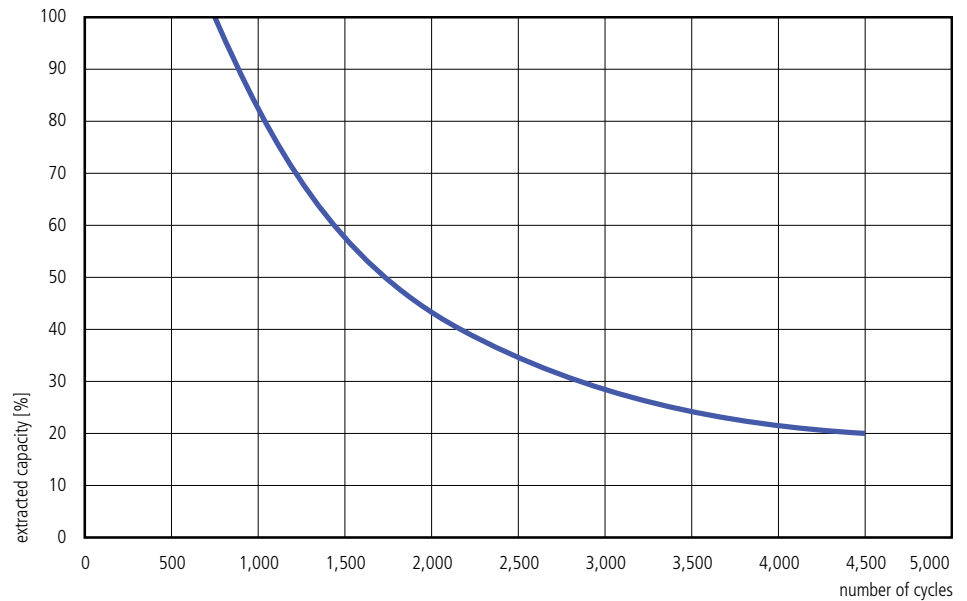
Dimensions, Weight, Packing Information

Type	Dimensions			Unit Weight
	Length	Width	Height	
	[mm]	[mm]	[mm]	[kg]
LORENTZ SP-G 6-130	195	170	207	16.0
LORENTZ SP-G 6-220	323	178	235	31.5
LORENTZ SP-G 6-250	243	188	275	35.0
LORENTZ SP-G 12-20	180	76	168	6.0
LORENTZ SP-G 12-30	165	127	176	10.0
LORENTZ SP-G 12-40	196	131	161	12.0
LORENTZSP-G 12-50	197	166	170	14.0
LORENTZ SP-G 12-60	229	138	214	18.7
LORENTZ SP-G 12-70	350	168	179	21.3
LORENTZ SP-G 12-80	259	168	215	25.0
LORENTZ SP-G 12-90	259	168	215	28.0
LORENTZ SP-G 12-100	307	169	215	29.5
LORENTZ SP-G 12-110	330	170	215	29.5
LORENTZ SP-G 12-120	330	170	215	33.0
LORENTZ SP-G 12-130	409	177	225	39.0
LORENTZ SP-G 12-150	342	173	285	42.0
LORENTZ SP-G 12-170	483	170	241	47.5
LORENTZ SP-G 12-190	530	209	225	53.4
LORENTZ SP-G 12-210	530	209	225	56.3
LORENTZ SP-G 12-250	522	240	225	61.5
LORENTZ SP-G 12-300	522	240	215	76.0

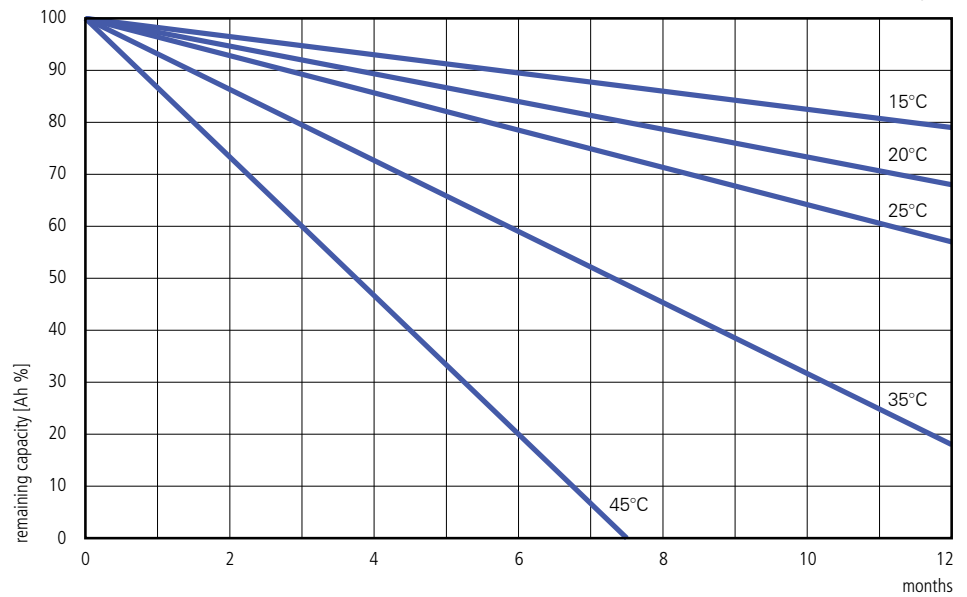
NOTE: Battery types SP-G 12-60, SP-G 12-90 and SP-G12-110 have a central manifold gassing systems incorporating a sintered PP flame-arrestor membrane so that they can be used in enclosed cabinets, and any gases vented and dispersed safely to the outside environment. Available with V-0 cover and case material batteries to meet BS 6290 Part 4.

Endurance in cycles

according to IEC 896-2



Self Discharge Characteristics



Charging Voltage dependent on Ambient Temperature

