

# SPHR Batteries for UPS Applications



 **SUNLIGHT**  
Reliable Battery Solutions

# SP High Rate OVERVIEW

## Valve Regulated AGM Batteries for UPS Applications

SUNLIGHT SPHR is a maintenance free, Valve Regulated Lead Acid battery range, which has been specially developed to provide high power output to Uninterruptible Power Supply systems for limited discharge time. SPHR batteries can deliver up to **30% more power** compared to conventional general purpose UPS series or in other words cover UPS loads for short periods of time with **30% less cost**. This boosted available power is a result of advanced product design that offers high performance for the most demanding UPS applications.

### APPLICATIONS

- IT systems
- Data centers
- Power generation plants and substations
- Telecommunication electrical equipments
- Switchboards
- Robots, control equipment and other factory automation equipment
- Broadcasting systems
- Various telemeter equipments
- Signaling



### QUALITY FEATURES & PRODUCT BENEFITS

#### High Performance

With low internal resistance and efficient discharge characteristics SPHR batteries can be applied to UPS applications that require superior energy density.

#### Maintenance free

During the service life, there is no need to check the level of the electrolyte or to add water. Ventilation requirements also are minimum.

#### Safety valve and leak proof container

The construction of the SPHR batteries with a highly resistant material -standard ABS (UL94 HB) or optionally flame retardant ABS (UL94 V0)- guarantees that no electrolyte leakage will occur from the terminals or case.

#### Performance on wide temperature range

SPHR batteries operate within a wide range of temperature. Discharge -20°C~60°C, Charge -10°C~50°C, Storage -20°C~50°C. The optimum temperature for the operation of the battery is 20°C – 25°C.

#### Low Self-discharge Rate

Using a lead calcium tin alloy, the self-discharge is very low (less than 3% of capacity per month at 20°C). The battery can be stored for six months under normal conditions (up to 25°C) with no permanent effect on the capacity or the expected service life.

**The ideal energy solution for UPS applications**

### CERTIFIED QUALITY

- The SUNLIGHT SPHR batteries are recognized by UL (File No MH18852).
- The SUNLIGHT SPHR batteries comply with IEC 60896 Part 21 & 22 and BS6290 Part 4.
- As a member of EUROBAT organization SYSTEMS SUNLIGHT S.A. closely monitors the latest developments in the battery industry.
- Products are 100% tested and checked prior to shipment.
- The SUNLIGHT SPHR batteries are completely recyclable.

### ADDED VALUE SERVICES

Design and implementation of turnkey solutions

Installation & maintenance services according to EN 50272-2 safety requirements (CE compliance)

360° Technical Support 24x7 through SUNLIGHT Global Partners Network

Training and consulting

Battery Collection and Recycling Services

## PRODUCT RANGE

Battery Type	Nominal Capacity End Voltage 1.6V/cell @20°C Volts (Watts for 10 minutes)	Dimensions				Weight (approx. Kg)	Internal Resistance @20°C (mΩ)	Terminal	Short Circuit Current (A) (20°C)	Max. Discharge Current (A) (5 sec., 20°C)	Max. Charge Current (A) (20°C)	
		Length (mm)	Width (mm)	Height (mm)	Total Height (mm)							
SPHR 12-33W	12	33	90	70	101	107	1.9	13.5	F2	270	75	2.0
SPHR 12-39W	12	39	151	65	94	100	2.1	21.0	F2	450	140	2.8
SPHR 12-48W	12	48	151	65	94	100	2.6	18.0	F2	450	135	3.6
SPHR 12-70W	12	70	151	98	95	101	3.6	13.4	F2	600	180	4.8
SPHR 12-105W	12	105	181	77	167	167	5.9	15.0	M5	800	255	6.8
SPHR 12-135W	12	135	166	175	125	125	9.0	12.0	M5	900	300	7.2
SPHR 12-165W	12	165	195	130	155	168	11.7	6.2	M6	950	330	9.9
SPHR 12-211W	12	211	197	165	170	170	14.8	6.1	M6	1100	450	13.5
SPHR 12-260W	12	260	229	138	208	213	17.2	5.8	M6	1500	550	16.5
SPHR 12-320W	12	320	258	166	206	215	24.0	5.2	M6	1900	700	22.5
SPHR 12-370W	12	370	350	167	179	179	26.2	4.7	M6	1950	750	24.0
SPHR 12-420W	12	420	306	169	208	214	30.0	4.2	M6	2100	800	27.0
SPHR 12-500W	12	503	330	171	215	220	32.5	5.0	M8	2200	900	30.0
SPHR 12-570W	12	560	410	176	224	224	36.5	4.0	M8	2400	950	36.0
SPHR 12-700W	12	704	482	170	240	240	45.0	3.5	M8	2800	1000	45.0
SPHR 12-1000W	12	1001	522	238	218	223	67.5	2.5	M8	3500	1000	60.0

## CHARGING & OPERATIONAL DATA

Recommended Charging Voltage at 20°C	Stand-by use (V/cell): 2.23 to 2.27 Cycle use (V/cell): 2.40 to 2.45
Temperature Compensation	Stand-by use: -20 mV/°C Cycle use: -30 mV/°C
Design Life (at 20°C)	5 years for models SPHR 12-33W up to SPHR 12-105W 10 years for models SPHR 12-135W up to SPHR 12-1000W

## WHY SUNLIGHT

### 30 years of Experience in Battery Business

- TOP 3 in the global advanced technology battery sector
- TOP 5 in the European industrial battery sector
- 98% of battery production is being exported
- Design and manufacturing of numerous premium solutions complying to demanding requirements

### Extensive Global Know-how

- Co-operation with TOP telecom players and equipment providers worldwide
- A fast growing Global Partners Network

### “One Stop Solution”

- From single components/products to turn-key solutions
- Robust high quality products & services portfolio
- Lifetime value maximization & total cost of ownership approach

### Exceptional Customer Service

- Highly experienced engineering team for design & development
- Pre-Sales & After-Sales Service providing global support
- Project Management competence

## PERFORMANCE DATA

### Discharge Constant Current at 20°C (Amperes)

Battery Type	End Voltage (V/cell)	Discharge Time (min)											
		5	10	15	20	25	30	35	40	45	50	55	60
SPHR 12-33W	1.60	25.7	16.2	13.1	10.3	8.85	7.51	6.50	6.14	5.80	5.24	4.65	4.14
	1.67	25.5	16.0	12.9	10.0	8.58	7.20	6.47	6.12	5.56	5.22	4.64	4.11
	1.70	25.2	15.9	12.8	9.92	8.49	7.06	6.44	6.10	5.53	5.20	4.63	4.07
	1.75	25.0	15.7	12.7	9.70	8.42	6.92	6.42	5.98	5.50	5.18	4.61	4.03
SPHR 12-39W	1.60	34.5	21.1	15.1	12.1	9.34	8.74	6.84	6.44	6.11	5.52	5.02	4.56
	1.67	32.1	20.6	15.0	12.0	9.28	8.67	6.74	6.31	6.02	5.45	4.94	4.48
	1.70	31.0	20.3	14.8	11.7	9.10	8.60	6.65	6.28	5.97	5.42	4.92	4.46
	1.75	28.8	20.1	14.3	11.6	9.00	8.55	6.60	6.24	5.93	5.39	4.90	4.43
SPHR 12-48W	1.60	26.5	19.7	13.9	11.1	8.81	8.25	6.42	6.21	5.90	5.37	4.87	4.36
	1.67	47.0	25.5	18.6	14.8	12.7	10.7	9.21	8.76	8.33	7.51	6.75	6.00
	1.70	45.8	25.0	17.9	14.3	12.3	10.4	9.18	8.65	8.14	7.34	6.62	5.87
	1.75	43.3	23.8	17.5	13.9	11.9	10.1	9.16	8.55	7.95	7.17	6.58	5.82
SPHR 12-70W	1.60	41.4	23.0	17.3	13.7	11.8	9.94	9.14	8.41	7.81	7.04	6.56	5.70
	1.67	39.7	22.8	17.0	13.3	11.6	9.90	9.12	8.37	7.73	6.99	6.54	5.60
	1.70	62.0	36.8	27.1	21.3	18.0	15.8	13.7	12.2	11.0	9.93	9.10	8.41
	1.75	61.5	35.8	26.6	20.9	17.1	15.0	13.1	11.6	10.4	9.46	8.68	8.02
SPHR 12-105W	1.60	57.1	35.3	26.3	19.7	16.2	14.2	12.4	11.0	9.89	8.98	8.25	7.63
	1.67	50.5	34.3	25.8	18.9	15.2	13.4	11.7	10.4	9.35	8.51	7.82	7.24
	1.70	44.5	33.0	24.9	18.4	14.8	13.1	11.4	10.1	9.13	8.31	7.64	7.08
	1.75	88.9	61.5	48.1	37.7	31.4	27.2	24.0	21.6	19.7	18.0	16.7	15.6
SPHR 12-135W	1.60	83.6	58.2	45.6	35.7	29.8	25.8	22.8	20.5	18.7	17.2	15.9	14.8
	1.67	78.3	54.8	43.1	33.8	28.1	24.4	21.6	19.4	17.8	16.3	15.1	14.1
	1.70	73.0	51.5	40.6	31.8	26.5	23.0	20.3	18.4	16.8	15.4	14.3	13.4
	1.75	69.9	49.6	39.2	30.8	25.8	22.4	19.8	17.9	16.4	15.1	14.0	13.1
SPHR 12-165W	1.60	113	79.2	61.0	48.4	40.8	35.8	31.3	27.9	25.2	23.0	21.1	19.6
	1.67	106	74.9	57.8	45.9	38.7	34.0	29.7	26.5	24.0	21.9	20.1	18.7
	1.70	99.6	70.6	54.6	43.4	36.6	32.1	28.1	25.1	22.7	20.8	19.1	17.8
	1.75	92.9	66.3	51.5	40.9	34.5	30.3	26.5	23.7	21.5	19.7	18.1	16.9
SPHR 12-211W	1.60	88.9	63.8	49.7	39.6	33.5	29.5	25.9	23.1	21.0	19.2	17.7	16.5
	1.67	135	95.5	73.5	59.5	51.1	45.5	40.2	36.2	33.1	30.2	27.8	25.8
	1.70	127	90.3	69.7	56.4	48.5	43.2	38.2	34.4	31.5	28.7	26.5	24.6
	1.75	119	85.1	65.8	53.3	45.8	40.8	36.2	32.6	29.9	27.3	25.2	23.4
SPHR 12-260W	1.60	111	79.9	62.0	50.3	43.2	38.5	34.1	30.8	28.3	25.8	23.9	22.2
	1.67	106	76.9	59.8	48.7	42.0	37.5	33.3	30.1	27.6	25.2	23.3	21.7
	1.70	176	121	94.4	75.5	64.1	56.5	50.2	45.5	41.9	38.2	35.2	32.6
	1.75	165	114	89.5	71.5	60.8	53.6	47.7	43.3	39.8	36.4	33.5	31.1
SPHR 12-320W	1.60	155	107	84.6	67.6	57.4	50.7	45.1	41.0	37.8	34.5	31.9	29.6
	1.67	144	101	79.7	63.7	54.1	47.8	42.6	38.8	35.8	32.7	30.2	28.1
	1.70	138	97.1	76.9	61.7	52.6	46.5	41.5	37.8	34.9	31.9	29.5	27.5
	1.75	189	144	113	93.0	81.1	73.1	64.9	58.8	54.0	49.8	46.3	43.5
SPHR 12-370W	1.60	178	136	107	88.3	76.9	69.3	61.6	55.8	51.4	47.4	44.2	41.5
	1.67	167	128	102	83.6	72.8	65.6	58.4	53.0	48.8	45.0	42.0	39.5
	1.70	155	120	95.9	78.9	68.6	61.8	55.1	50.1	46.2	42.7	39.8	37.5
	1.75	149	115	92.6	76.4	66.7	60.2	53.7	48.8	45.0	41.7	38.9	36.6
SPHR 12-420W	1.60	233	177	139	115	100	90.0	79.9	72.3	66.5	61.3	57.1	53.5
	1.67	219	167	132	109	94.7	85.3	75.9	68.8	63.2	58.4	54.4	51.1
	1.70	205	157	125	103	89.6	80.7	71.8	65.2	60.0	55.4	51.7	48.6
	1.75	191	148	118	96.8	84.4	76.1	67.8	61.6	56.8	52.5	49.0	46.1
SPHR 12-500W	1.60	183	142	114	93.8	82.0	74.1	66.1	60.1	55.4	51.3	47.9	45.1
	1.67	269	208	167	136	117	104	92.0	82.8	75.6	70.2	65.8	62.1
	1.70	253	197	159	129	111	99.0	87.4	78.7	71.9	66.8	62.7	59.2
	1.75	237	186	150	122	105	93.7	82.8	74.6	68.2	63.5	59.6	56.4
SPHR 12-570W	1.60	221	174	141	115	98.9	88.3	78.1	70.5	64.6	60.1	56.5	53.5
	1.67	212	168	136	111	96.0	86.0	76.1	68.8	63.0	58.7	55.2	52.3
	1.70	/	235	192	155	133	118	105	95.2	87.5	79.7	73.3	68.0
	1.75	/	223	182	147	126	112	100	90.5	83.3	75.9	69.9	64.9
SPHR 12-700W	1.60	/	210	172	139	119	106	94.5	85.8	79.0	72.1	66.4	61.7
	1.67	/	197	162	131	112	100	89.2	81.1	74.7	68.3	63.0	58.6
	1.70	/	190	156	127	109	97.4	86.9	79.1	73.0	66.7	61.6	57.3
	1.75	/	285	227	182	150	131	114	101	92.0	82.0	75.0	70.0
SPHR 12-1000W	1.60	/	262	218	170	140	122	105	95.0	86.0	78.0	71.0	66.0
	1.67	/	251	205	165	135	117	100	90.0	82.0	75.0	68.0	63.0
	1.70	/	239	194	159	131	113	95	85.0	78.0	72.0	66.0	61.0
	1.75	/	224	184	151	123	106	91	80.0	74.0	68.0	62.0	58.0
SPHR 12-135W	1.60	/	323	257	205	173	147	130	116	103	94.0	85.0	79.0
	1.67	/	297	242	190	162	135	118	106	95.0	87.0	78.0	74.0
	1.70	/	284	234	181	154	130	112	100	91.0	82.0	75.0	72.0
	1.75	/	271	226	173	146	125	107	94.0	87.0	77.0	73.0	69.0
SPHR 12-165W	1.60	/	260	216	168	140	121	103	91.0	85.0	75.0	68.0	67.0
	1.67	/	403	321	256	209	185	159	141	128	113	104	99.0
	1.70	/	370	302	245	200	177	150	135	123	107	99.0	96.0
	1.75	/	353	291	238	195	172	146	131	120	104	97.0	94.0
SPHR 12-211W	1.60	/	337										



## **SYSTEMS SUNLIGHT S.A.**

### **Headquarters**

2 Ermou & Nikis Str., Syntagma Sq.  
105 63 Athens, Attica, Greece  
**T** +30 210 6245400  
**F** +30 210 6245409

### **European Manufacturing Plant**

Neo Olvio  
672 00 Xanthi, Greece  
**T** +30 25410 48100  
**F** +30 25410 95446

### **Global Service Department**

366 Tatoiou Str.  
136 73 Acharnes, Attica, Greece  
**T** +30 210 6245600  
**F** +30 210 6245619

**[www.systems-sunlight.com](http://www.systems-sunlight.com)**

ET-MS\_131009 - EN



Member of SUNLIGHT Global Partners Network