



HR series
HR 1221W

12V 21W



Valve Regulated Lead Acid Battery

Maintenance-Free Sealed Lead Acid Battery.

Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99%.

Design for Standby Power Applications

【Design Life】

Up to 5 Years in Standby Service at 25°C
Eurobat (20°C) : 3-5 years, Standard Commercial

【Operating Temperature Range】

Nominal Operating Temperature : 25°C (77°F)
Discharge : -15°C ~ 50°C (5°F~122°F)
Charge: -15°C ~ 40°C (5°F~104°F)
Storage: -15°C ~ 40°C (5°F~104°F)

【Float Charging Voltage】

13.5 ~ 13.8 VDC/Unit at 25°C (77°F)

【Equalization Charging Voltage】

14.4 ~ 15.0 VDC/Unit at 25°C (77°F)

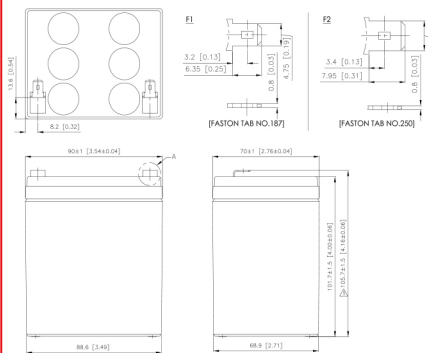
【Self Discharge】

Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F);
Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).

Specification

Design according with IEC 61056-1/2:2012

Nominal Voltage	12V (6 cells per unit)		
Nominal Capacity	21W @15min-rate to 1.67V per cell @25°C (77°F)		
Weight	Approx. 1.80 Kg (3.97 lbs)		
Maximum Discharge Current	60/90A (5sec)		
Internal Resistance	Approx. 23.0 mΩ		
Short Circuit Current	249A		
Maximum Charge Current	2.1A		
Terminal types	F1/F2 -Faston Tab187/250		
Terminal breaking Torque	--		
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request		
Dimensions	Length (L)	90.0±1.0 mm	3.54±0.04 inch
	Width (W)	70.0±1.0 mm	2.76±0.04 inch
	Container Height (h)	101.7±1.5 mm	4.00±0.06 inch
	Overall Height (H)	105.7±1.5 mm	4.16±0.06 inch



Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	46.4	31.2	27.3	24.4	20.3	17.4	12.9	10.4	7.29	5.15	4.02	2.83
1.67V	43.1	29.7	26.2	23.6	19.9	17.1	12.5	10.1	7.18	5.10	4.00	2.71
1.70V	41.3	28.9	25.6	23.2	19.7	16.8	12.3	9.93	7.14	5.08	3.99	2.65
1.75V	37.4	27.4	24.4	22.2	19.0	16.3	12.1	9.70	7.07	5.05	3.98	2.56
1.80V	33.1	25.2	22.8	21.0	18.2	15.7	11.8	9.51	7.00	5.02	3.96	2.46
1.85V	28.6	22.8	20.7	19.2	16.9	14.8	11.5	9.29	6.92	4.98	3.95	2.36

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	557	374	327	293	244	209	154	123	87.5	61.7	48.2	33.9
1.67V	515	357	315	284	238	203	150	120	86.6	61.4	48.1	32.5
1.70V	495	348	308	279	234	200	149	119	86.2	61.2	48.0	31.9
1.75V	451	329	293	266	226	194	145	116	85.8	61.0	47.9	30.7
1.80V	397	302	272	250	216	188	141	113	85.4	60.8	47.8	29.5
1.85V	343	275	253	237	208	181	138	111	85.3	60.7	47.7	28.3

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