



VRLA Battery

MS20-12 12V 20Ah

MS Series SLA Battery

MHB MS Series--Small-size batteries

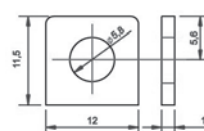
- 100% before shipment testing, stable and reliable long-term quality
- patented grid alloy formula and updated manufacturing technique
- completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use: More than 260 cycles at 100% DOD
- Floating & standby use: 3-5 years

Application:

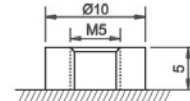
- Alarm System
- Cable Television
- Communication Equipment
- Emergency Power System
- Security System
- Medical Equipment
- UPS
- Power tools
- Control Equipment
- Toys

Construction:

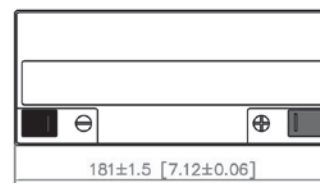
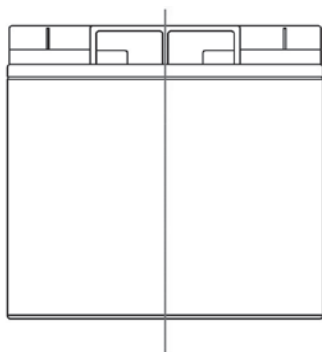
- ComponentRaw material
- PositiveLead dioxide
- NegativeLead
- ContainerABS
- CoverABS
- SealantEpoxy
- Safety valve Rubber
- TerminalCopper
- SeparatorFiber glass
- ElectrolyteSulfuric acid



M5 Bolt & Nut
T1 Terminal



M5 Bolt
B1 Terminal



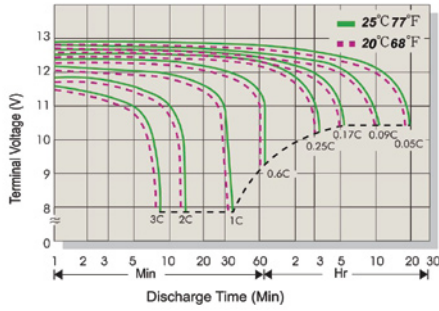
Specification:

Battery Model	MS 20-12 12V20AH			
Designed Floating Life	3~5 Years			
Capacity@(40°C)	20HR(1.00A,10.5V)	10HR(1.924A,10.5V)	5HR(3.599A,10.5V)	1HR(12.05A,10.5V)
	20.00AH	19.24AH	18.00AH	12.05AH
Dimensions	Length	Width	Height	Total Height
	181mm (7.12inch)	77mm (3.03inch)	160mm (6.30inch)	167mm (6.57inch)
Approx. Weight	6Kg (13.2 lbs) ± 5%			
Internal Resistance	Full charged at 25°C: ≤ 22.5mΩ			
Self Discharge	3% of capacity declined per month at (25°C)			
Capacity Affected by Temp.(20HR)	40°C	25°C	0°C	-15°C
	102%	100%	85%	65%
Charge Voltage(25°C)	Cycle use		Float use	
	14.4-15.0V(-30mV/°C), max. Current: 6A		13.5-13.8V (-20mV/°C)	

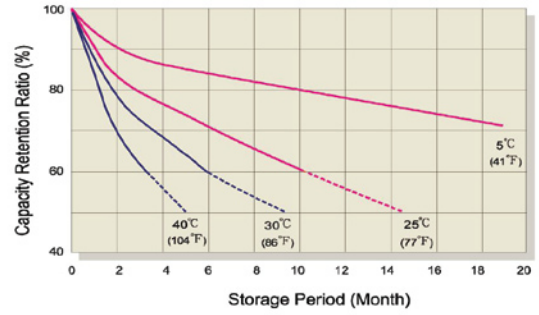
FUJIAN MINHUA POWER SOURCE CO., LTD.

www.mhb-battery.com

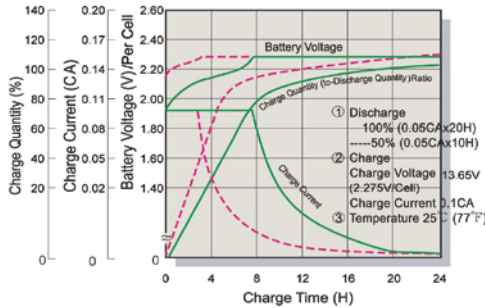
Terminal Voltage (V) and Discharge Time



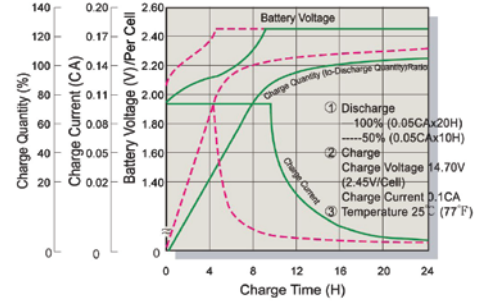
Capacity Retention Characteristic



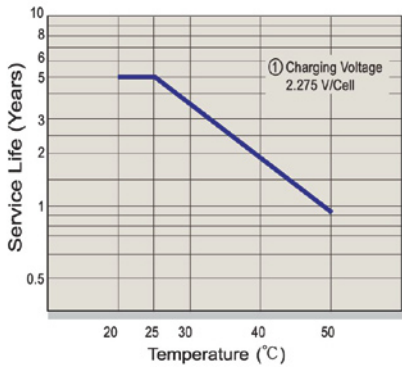
Battery Voltage and Charge Time for Standby Use



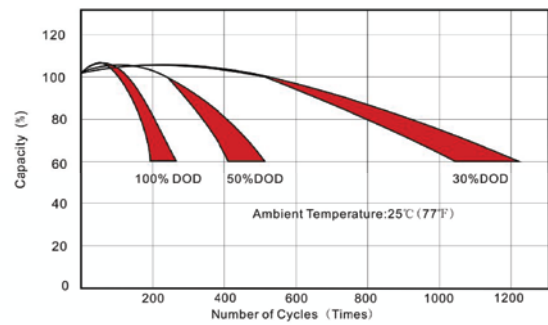
Battery Voltage and Charge Time for Cycle Use



Tickle(or Float) Service Life



Cycle Service Life



Constant Current Discharge (CC, Unit: A) at 25°C

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.85V/Cell	65.76	38.82	30.51	19.89	11.61	6.71	5.15	4.231	3.467	2.826	1.853	0.963
1.80V/Cell	67.01	39.56	31.09	20.27	11.83	6.84	5.25	4.312	3.533	2.880	1.889	0.982
1.75V/Cell	68.27	40.30	31.67	20.65	12.05	6.97	5.35	4.392	3.599	2.934	1.924	1.000
1.70V/Cell	74.41	42.72	33.57	21.47	12.26	7.09	5.44	4.470	3.663	2.986	1.958	1.018
1.67V/Cell	81.92	46.35	36.43	22.67	12.39	7.16	5.50	4.518	3.702	3.018	1.979	1.029
1.60V/Cell	88.75	48.76	38.33	23.64	12.53	7.24	5.56	4.566	3.742	3.050	2.000	1.040

Constant Power Discharge (CP, Unit: W) at 25°C

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.85V/Cell	128.23	75.69	59.49	38.78	22.63	13.08	10.05	8.25	6.76	5.51	3.61	1.88
1.80V/Cell	130.67	77.14	60.63	39.52	23.07	13.33	10.24	8.41	6.89	5.62	3.68	1.91
1.75V/Cell	133.12	78.59	61.76	40.26	23.50	13.58	10.43	8.57	7.02	5.72	3.75	1.95
1.70V/Cell	145.11	83.30	65.47	41.87	23.91	13.82	10.61	8.72	7.14	5.82	3.82	1.98
1.67V/Cell	159.75	90.37	71.03	44.21	24.17	13.97	10.73	8.81	7.22	5.88	3.86	2.01
1.60V/Cell	173.06	95.09	74.73	46.10	24.43	14.12	10.84	8.90	7.30	5.95	3.90	2.03