NEWSTAR

GNS2212 (12V22Ah)

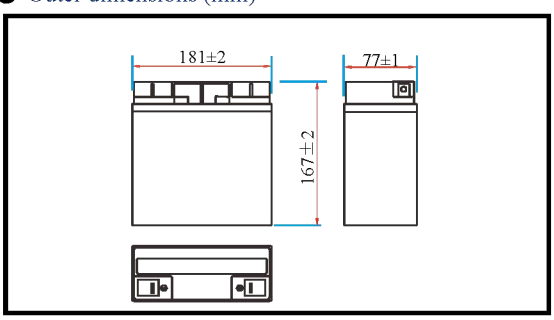
Valve Regulated Lead Acid Battery



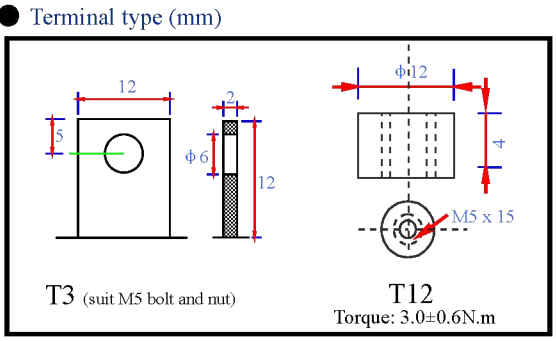
Specifications

Nominal voltage		12V (6 cells per unit)
Rated capacity (20HR)		22Ah/10.5V
Dimensions	Length	181±2mm (7.13inch)
	Width	77±1mm (3.03inch)
	Height	167±2mm (6.57inch)
	Total height	167±2mm (6.57inch)
Approx. weight		6.10kg (13.40 lbs)±4%

Outer dimensions (mm)



Terminal type (mm)



T3 (suit M5 bolt and nut)

T12
Torque: 3.0±0.6N.m

Characteristics

Capacity (25°C)	20HR (10.5V)	22Ah
	10HR (10.5V)	20Ah
	1HR (9.60V)	13.2Ah
Terminal type		T3/T12
Internal resistance (Fully charged, 25°C)		Approx. 12mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity: 91%
	6 months	Remaining capacity: 82%
	12 months	Remaining capacity: 65%
Nominal operating temperature		25°C± 3°C (77°F± 5°F)
Operating temperature range	Discharge	- 15°C~ 50°C (5°F ~ 122°F)
	Charge	- 10°C~ 50°C (14°F ~ 122°F)
	Storage	- 20°C~ 50°C (-4°F ~ 122°F)
Float charging voltage (25°C)		13.60 to 13.80V Temperature compensation: -18mV/°C/Block
Cyclic charging voltage (25°C)		14.50 to 15.00V Temperature compensation: -30mV/°C/Block
Maximum charging current		6.6A
Maximum discharge current		300A (5 sec.)
Design life		5 years for floating (25°C)
		Eurobat (20°C): 3-5 years, standard commercial

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper

Constant current discharge characteristics unit: Ampere/Block (at 25°C, 77°F)

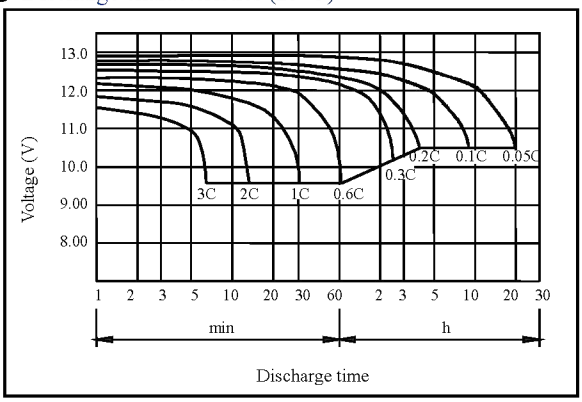
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	80.7	51.1	39.9	22.5	13.8	7.88	5.45	4.51	3.84	2.08	1.12
9.90V	78.3	49.6	39.0	22.0	13.6	7.84	5.42	4.48	3.81	2.08	1.11
10.2V	75.0	47.5	37.5	21.4	13.3	7.77	5.38	4.45	3.79	2.06	1.11
10.5V	71.8	45.5	36.2	20.9	13.0	7.65	5.35	4.42	3.76	2.05	1.10
10.8V	67.8	42.9	34.3	20.1	12.6	7.46	5.19	4.29	3.65	2.01	1.08

Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

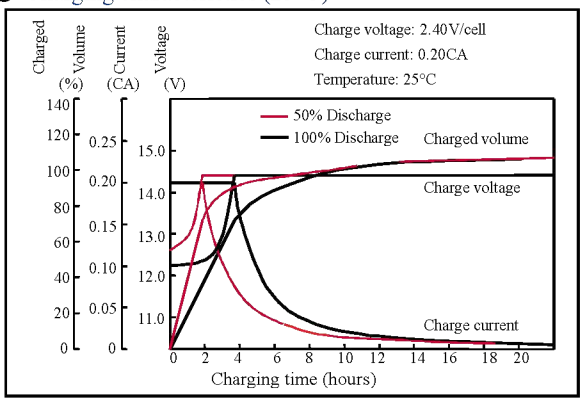
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	900	577	455	258	160	92.2	64.8	53.7	45.8	25.0	13.4
9.90V	873	559	444	253	158	91.7	64.4	53.4	45.5	24.9	13.3
10.2V	837	536	428	245	154	90.9	64.0	53.0	45.2	24.8	13.3
10.5V	801	513	413	239	151	89.5	63.5	52.7	44.9	24.6	13.2
10.8V	756	484	391	230	146	87.2	61.6	51.1	43.6	24.1	12.9

Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

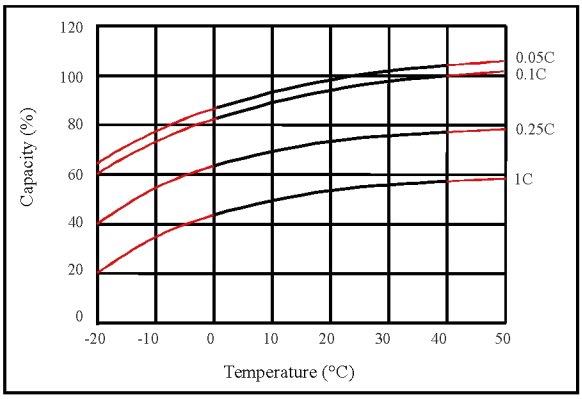
Discharge characteristics (25°C)



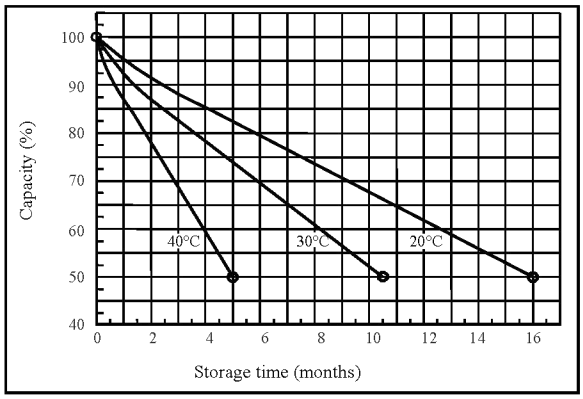
Charging characteristics (25°C)



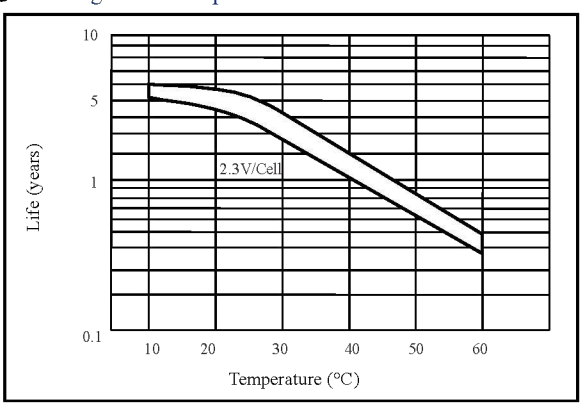
Temperature effects on capacity



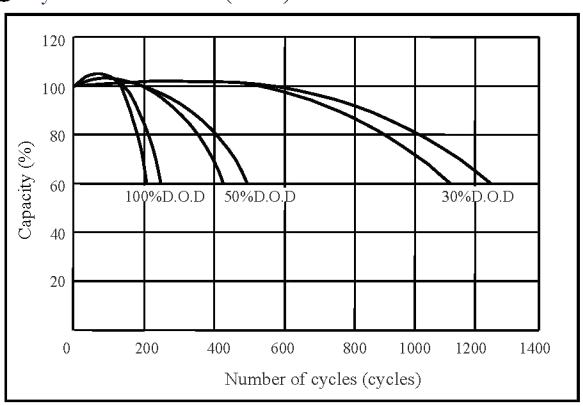
Self-discharge characteristics



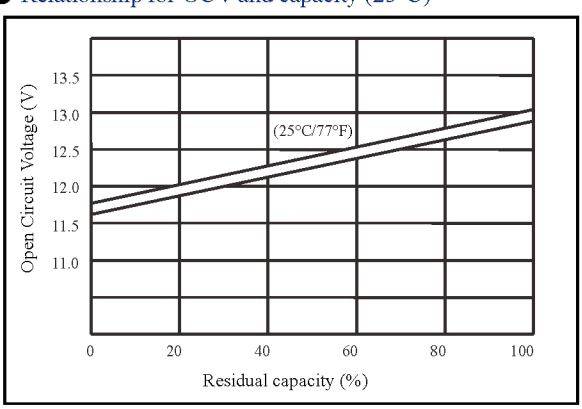
Floating life on temperature



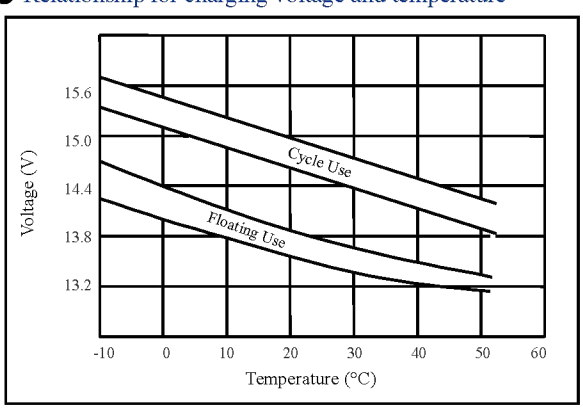
Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Relationship for charging voltage and temperature



MH47211