

GEL-12-20

Valve-regulated lead-acid battery



GEL SERIES

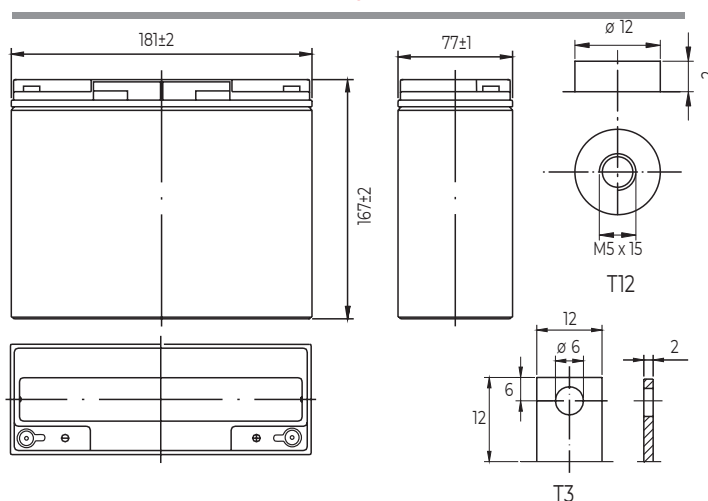
Characteristics

Nominal voltage		12V (6 cells per unit)
Nominal capacity at 20 hours rate/10.5V (25°C)		20Ah
Capacity (25°C)	10 Hours rate/10.8V	17.9Ah
	5 Hours rate/10.8V	16Ah
Terminal type		T12/T3
Torque		3.0±0.6N.m
Approx. internal resistance (25°C)		13.0mΩ
Dimensions	Length	181±2mm (7.13inch)
	Width	77±1mm (3.03inch)
	Height	167±2mm (6.57inch)
	Total height	167±2mm (6.57inch)
Design Life (stand-by)	JIS at 25°C	12 years
	Eurobat at 20°C	10/12 years
Weight		5.80kg (12.79lbs)±4%
Nominal operating temperature		25±3°C (77°F±5)
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 at 25°C		13.5V~13.8V
Cyclic charging voltage at 25°C		14.4V~14.7V
Temperature compensation	Float charge	-18 mV/°C/Block
	Cycle charge	-30 mV/°C/Block
Max. charging current (A)		4.0A
Max. discharge current for 5 seconds		300A
Self discharge rate (25°C)		≤3%/month
Battery container ABS UL94-HB		V-0 optional

Overview

GEL Series are manufactured following the highest demands in the deep cycle and renewable energy applications. The batteries use colloidal or foamed silica gel to immobilize the electrolyte, which further enhances the cycling stability. Available in top and front terminal types.

Dimensions & Terminal Type (mm)



Construction

Component	Positive Plate	Negative plate	Container	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS (V-0 opt.)	AGM	Sulfuric Acid Gel	Rubber	Copper

Constant current discharge characteristics at 25°C

(Ampere/battery)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	61.6	42.0	35.0	20.4	12.4	7.00	4.94	4.00	3.37	1.86	1.02
9.90V	59.8	40.7	34.2	20.0	12.2	6.96	4.91	3.97	3.35	1.85	1.01
10.2V	57.3	39.1	32.9	19.4	11.9	6.90	4.87	3.95	3.32	1.84	1.01
10.5V	54.8	37.4	31.8	18.9	11.7	6.80	4.84	3.92	3.30	1.83	1.00
10.8V	51.7	35.3	30.1	18.2	11.3	6.62	4.69	3.80	3.20	1.79	0.98

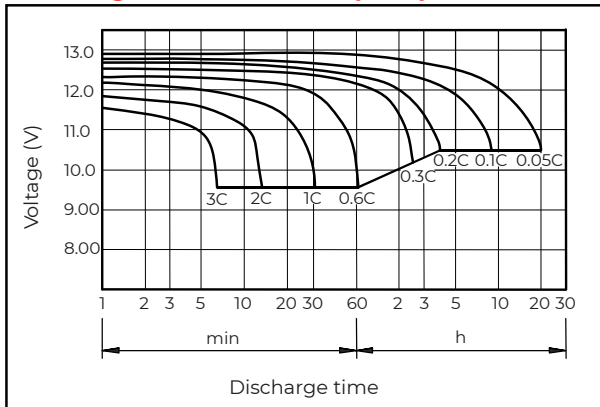
Constant power discharge characteristics at 25°C

(Watts/battery)

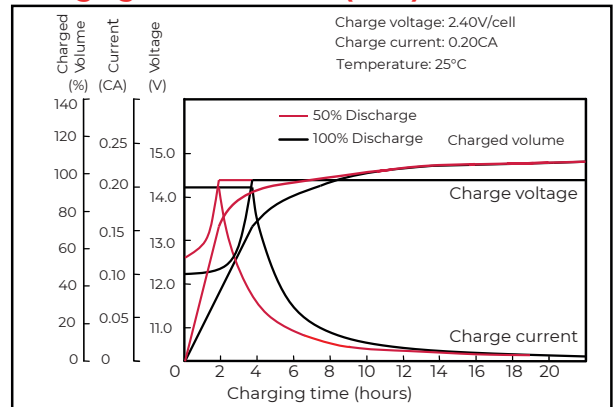
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	687	474	399	234	144	81.9	58.6	47.6	40.2	22.3	12.2
9.90V	667	460	389	229	141	81.5	58.3	47.3	40.0	22.2	12.1
10.2V	639	441	375	222	138	80.7	57.9	47.0	39.7	22.1	12.1
10.5V	612	422	362	217	135	79.5	57.5	46.7	39.4	22.0	12.0
10.8V	577	398	343	209	131	77.5	55.8	45.3	38.2	21.5	11.8

The above characteristics represent average values and can be obtained within three charge and discharge cycles. The batteries must be fully charged before testing. The data in this document is subject to change without notice and become contractual only after written confirmation. Please contact **Conexpro** for the latest available version.

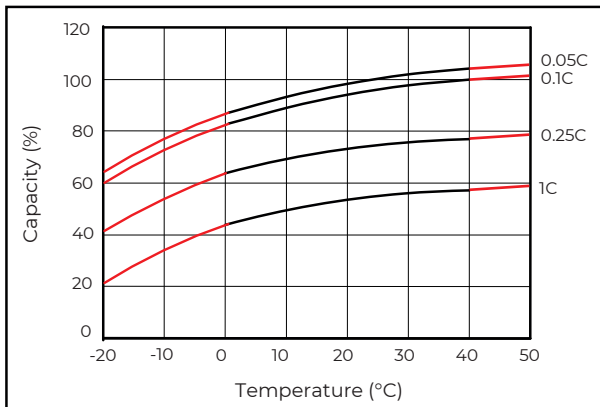
Discharge characteristics (25°C)



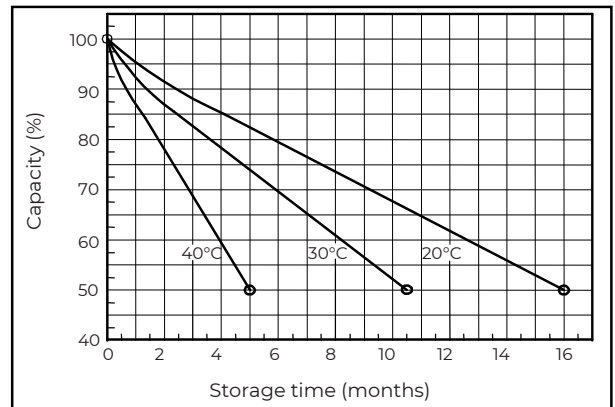
Charging characteristics (25°C)



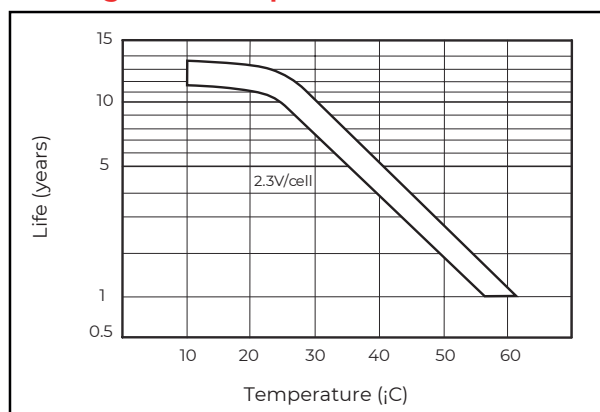
Temperature effects on capacity



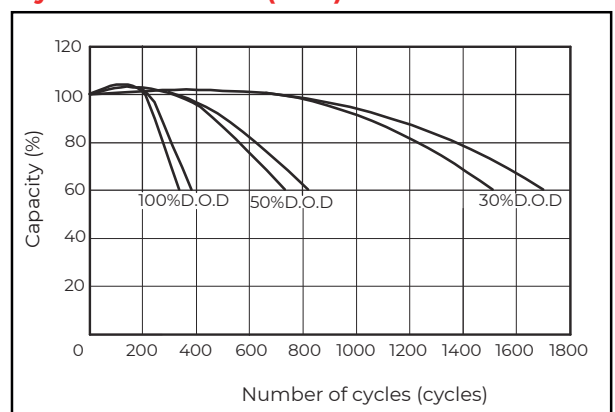
Self-discharge characteristics



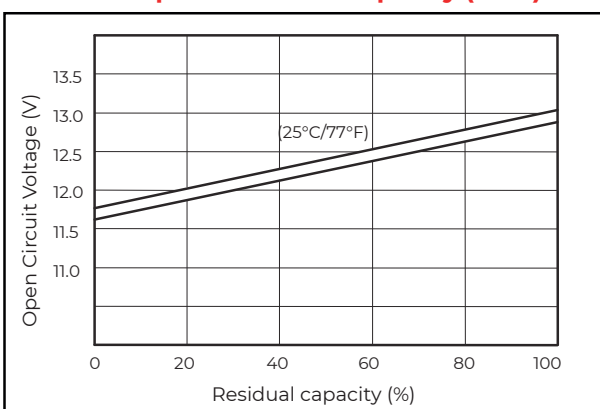
Floating life on temperature



Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Charging voltage VS temperature

