GEL Gel Technology Batteries

Upower
Unlimited power

UP Series
G40-12
GENERAL PURPOSE GEL

Main Features

- **Longer Design Life**
  Designed for 12 years of service life at 25°C.

- **Uniform Electrolyte Distribution**
  Using high quality silica (silicon dioxide) we obtain a uniform electrolyte distribution for a better performance.

Technical Specifications

Nominal Voltage (V)	12	
Nominal Capacity (20 Hr)	40 Ah	
Dimensions	Length:	197 ± 2 mm (7.76 inches)
	Width:	165 ± 2 mm (6.50 inches)
	Container Height:	170 ± 2 mm (6.69 inches)
	Total Height (+terminal):	170 ± 2 mm (6.69 inches)
Approx. Weight	Approx. 13.5 kg (29.76 lbs)	
Terminal	M6	
Container Material	ABS	
Rated Capacity	41.6 Ah / 2.08 A	(20hr, 1.80V/cell, 25ºC / 77ºF)
	37.0 Ah / 3.77 A	(10hr, 1.75V/cell, 25ºC / 77ºF)
	33.2 Ah / 6.64 A	(5hr, 1.75V/cell, 25ºC / 77ºF)
	28.8 Ah / 9.61 A	(3hr, 1.75V/cell, 25ºC / 77ºF)
	22.85 Ah / 22.85 A	(1hr, 1.67V/cell, 25ºC / 77ºF)
Maximum Discharge Current	380 A (5 s)	
Internal Resistance	Approx. 12.0 mΩ	
Operating Temperature Range	Discharge:	-20 ~ 55ºC (-4 ~ 131ºF)
	Charge:	0 ~ 40ºC (32 ~ 104ºF)
	Storage:	-20 ~ 50ºC (-4 ~ 122ºF)
Nominal Operating Temperature Range	25 ± 3ºC (77 ± 5ºF)	
Cycle Use	Initial Charging Current less than 7.6 A. Voltage 14.4~15V at 25ºC (77ºF) Temp. Coefficient -30mV/ºC	
Standby Use	No limit on Initial Charging Current Voltage. 13.5~13.8V at 25ºC (77ºF) Temp. Coefficient -20mV/ºC	
Capacity affected by Temperature	40ºC (104ºF) 103%	
	25ºC (77ºF) 100%	
	0ºC (32ºF) 86%	
Self Discharge	Batteries may be stored for up to 9 months at 25ºC (77ºF) and then a freshening charge is requiered.	

MASTER BATTERY

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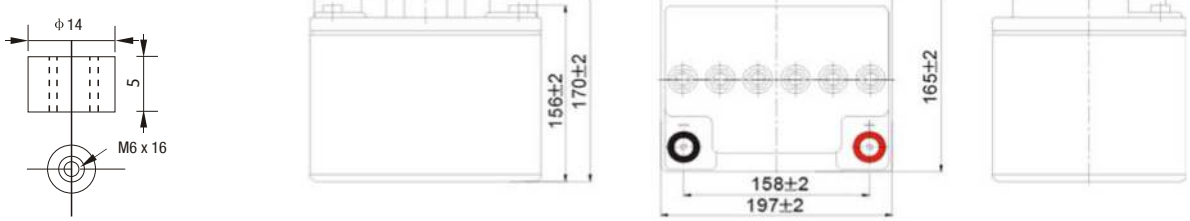
zeroCO2

Battery Dimensions

Terminal M6

Unit: mm (inches)



Battery Discharge Tables

Constant Current Discharge (Amperes) at 25ºC (77ºF)														
F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	35.10	27.55	21.05	17.60	11.15	8.51	7.05	6.09	5.25	4.65	4.20	3.84	3.54	1.99
1.80V/cell	40.20	30.80	23.15	19.45	12.10	9.12	7.47	6.39	5.52	4.87	4.39	4.03	3.70	2.08
1.75V/cell	45.20	33.85	25.10	20.75	12.80	9.61	7.82	6.64	5.71	5.04	4.54	4.15	3.77	2.12
1.70V/cell	48.70	36.25	26.65	22.00	13.55	10.04	8.08	6.85	5.91	5.21	4.67	4.26	3.86	2.14
1.67V/cell	50.65	37.70	27.55	22.85	13.90	10.34	8.28	6.99	6.01	5.29	4.74	4.32	3.90	2.17
1.60V/cell	54.90	40.30	29.60	24.25	14.50	10.78	8.6	7.21	6.15	5.40	4.83	4.41	3.98	2.20

Constant Power Discharge (Watts/cell) at 25ºC (77ºF)														
F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	67.20	53.10	40.75	34.25	21.85	16.70	13.85	12.00	10.41	9.23	8.34	7.64	7.05	3.98
1.80V/cell	76.00	58.75	44.65	37.60	23.50	17.80	14.65	12.55	10.90	9.61	8.72	8.01	7.35	4.14
1.75V/cell	84.40	64.10	47.90	40.05	24.80	18.75	15.30	13.00	11.25	9.96	8.98	8.24	7.49	4.22
1.70V/cell	89.95	68.00	50.45	42.15	26.20	19.45	15.75	13.40	11.60	10.25	9.23	8.45	7.66	4.26
1.67V/cell	92.60	69.90	51.90	43.45	26.75	20.00	16.05	13.65	11.75	10.40	9.33	8.54	7.74	4.30
1.60V/cell	99.20	74.15	55.35	45.95	27.65	20.75	16.60	14.00	12.00	10.59	9.50	8.71	7.88	4.36

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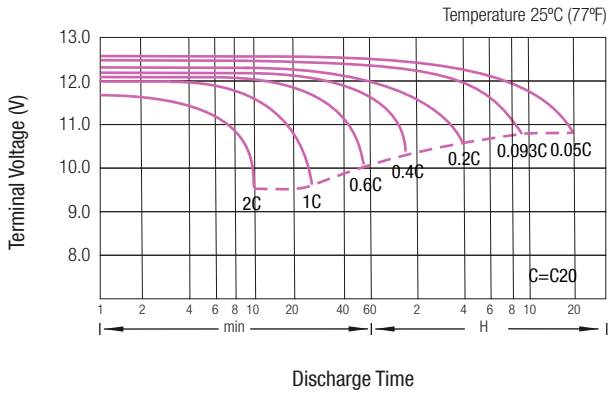
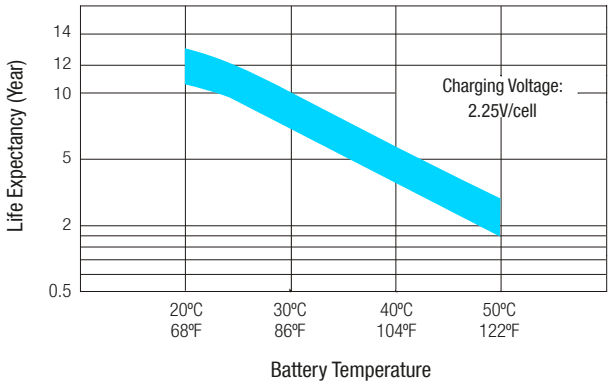
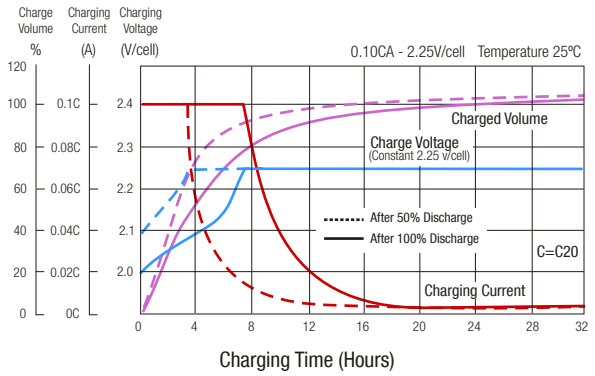
Discharge Characteristics



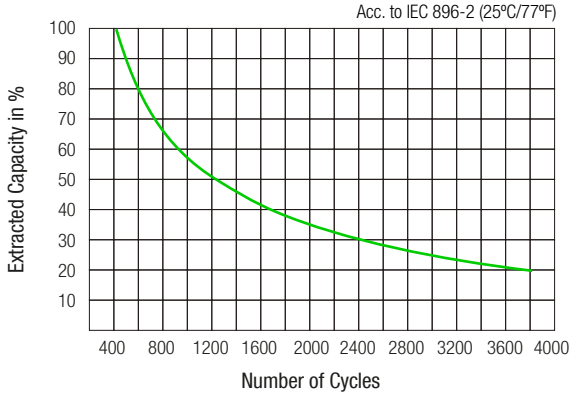
Effect of Temperature on Long Term Float Life



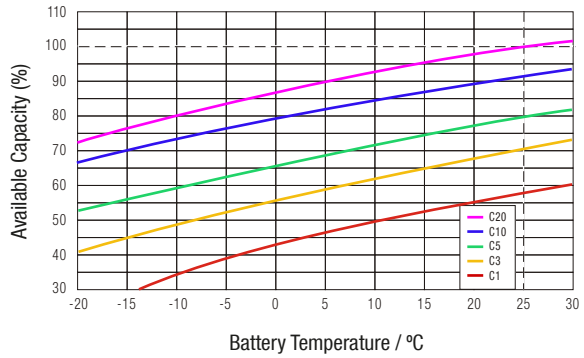
Float Charging Characteristics



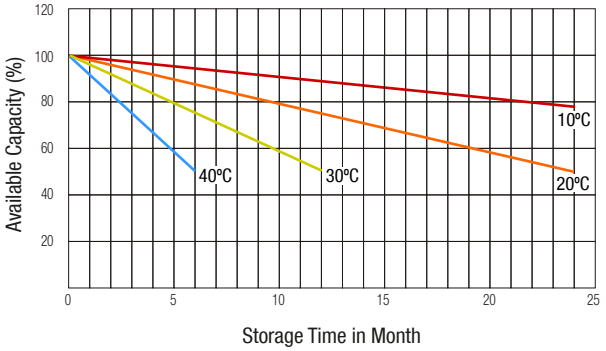
Cycle Life in Relation to Depth of Discharge



Temperature Effects in Relation to Battery Capacity



General Relation of Capacity VS. Storage Time



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