

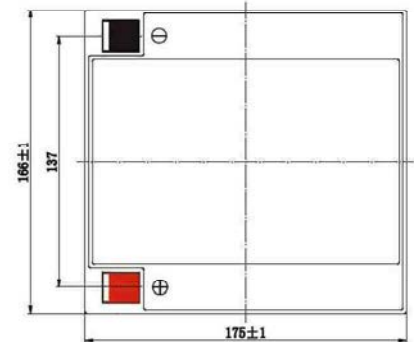


PH SERIES - General Purpose

PH12-28.0 (12V28.0AH)

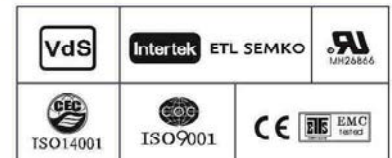
Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	28.0AH	
Dimensions	Length	166±2mm (6.54 inches)
	Width	175±2mm (6.93 inches)
	Container Height	125±2mm (4.92 inches)
	Total Height (with Terminal)	125±2mm (4.92 inches)
	Approx Weight	Approx 8.1 kg (17.9lbs)
Terminal	T3 / T12	
Container Material	ABS	
Rated Capacity	28.0 AH/1.40A	(20hr, 1.80V/cell, 25°C/77°F)
	26.0 AH/2.60A	(10hr, 1.80V/cell, 25°C/77°F)
	23.8 AH/4.76A	(5hr, 1.75V/cell, 25°C/77°F)
	21.4 AH/7.14A	(3hr, 1.75V/cell, 25°C/77°F)
	17.6 AH/17.6A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	420A (5s)	
Internal Resistance	Approx 14mΩ	
Operating Temp. Range	Discharge : -15~50°C (5~122°F)	
	Charge : 0~40°C (32~104°F)	
	Storage : -15~40°C (5~104°F)	
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 8.4A. Voltage	
	14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Batteries may be stored for up to 6 months at 25 degree celcius and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system



Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	53.3	40.9	33.9	29.3	22.7	16.7	14.1	8.33	6.52	5.30	4.32	3.75	3.02	2.53	1.39
1.80V/cell	71.6	52.3	41.0	34.7	26.8	19.4	15.8	9.09	7.01	5.66	4.64	4.02	3.21	2.60	1.40
1.75V/cell	80.7	57.5	44.8	37.3	27.8	20.2	16.5	9.42	7.14	5.78	4.76	4.13	3.26	2.67	1.41
1.70V/cell	88.9	62.7	47.8	39.2	28.9	21.0	17.0	9.66	7.34	5.94	4.88	4.22	3.31	2.73	1.44
1.65V/cell	98.0	67.6	50.8	41.6	30.5	21.5	17.4	9.80	7.65	6.14	5.01	4.31	3.36	2.78	1.46
1.60V/cell	108.1	73.4	54.3	44.4	32.2	22.4	17.6	10.2	7.88	6.33	5.18	4.40	3.39	2.81	1.47

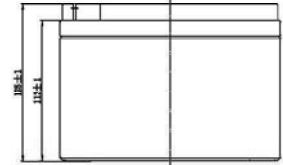
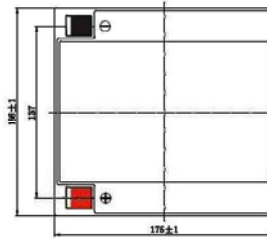
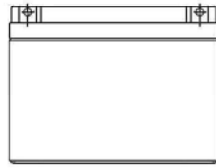
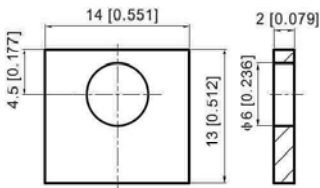
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	97.5	75.6	63.3	55.3	43.2	32.1	27.2	16.17	12.70	10.36	8.47	7.37	5.97	5.00	2.75
1.80V/cell	129.5	95.5	75.4	64.4	50.2	37.1	30.3	17.53	13.59	11.00	9.05	7.87	6.31	5.15	2.77
1.75V/cell	142.9	103.3	81.4	68.6	51.7	38.1	31.5	18.11	13.78	11.21	9.26	8.06	6.41	5.28	2.79
1.70V/cell	153.0	110.0	85.7	71.6	53.5	39.5	32.4	18.53	14.14	11.48	9.48	8.22	6.49	5.38	2.84
1.65V/cell	166.3	117.6	90.4	75.4	56.0	40.1	32.9	18.68	14.68	11.83	9.70	8.37	6.58	5.48	2.88
1.60V/cell	179.2	124.8	95.1	79.5	58.7	41.6	33.1	19.39	15.06	12.17	9.99	8.53	6.63	5.53	2.89

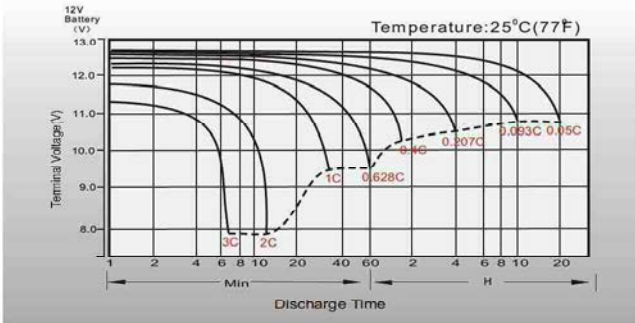
Dimensions

T3 Terminal

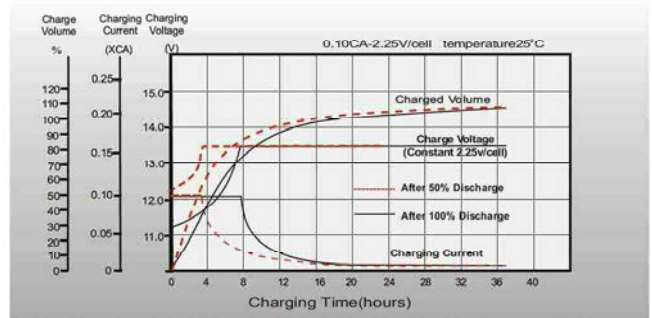
Unit: mm [inches]



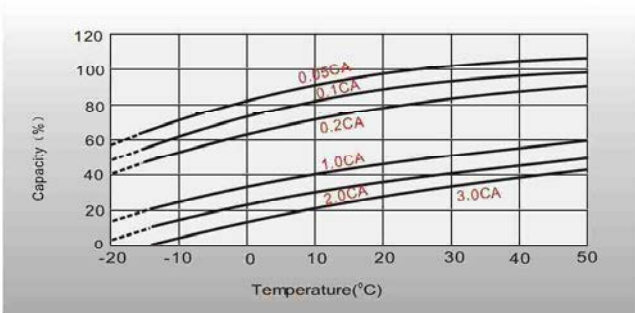
Discharge Characteristics



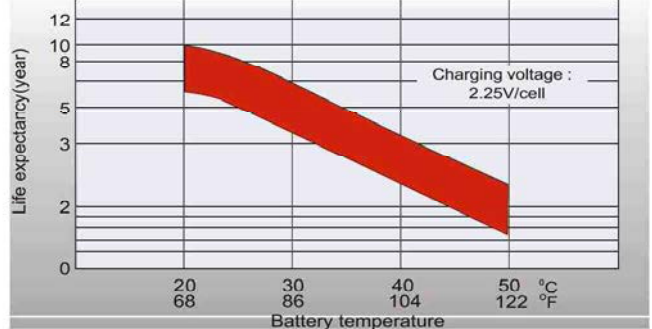
Float Charging Characteristics



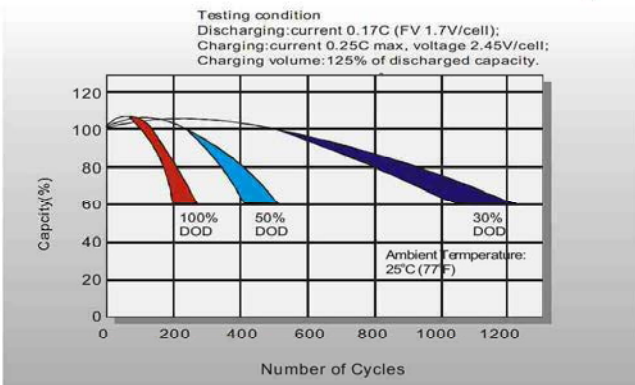
Temperature Effects in Relation to Battery Capacity



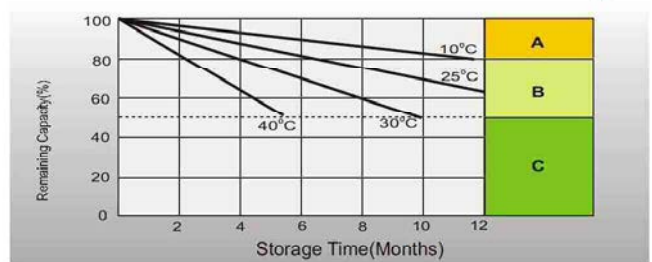
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics



- A** No supplementary charge required
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.

Sales Office

PowerHub Systems Pte Ltd

7030 Ang Mo Kio Ave 5
#06-23 Northstar@AMK
Singapore 569880
Tel: (65) 65708069
Fax: (65) 65708066
sales@powerhub.com.sg
www.powerhub.com.sg