

Designed and manufactured with 8 exclusive patented technologies, Narada have created an innovative range of high temperature batteries. The 313K series is designed to cope with the most extreme temperatures and environments. The advanced technology and unique manufacturing methods enable 313K batteries to deliver at least twice the cycle life of conventional lead- acid batteries, making them the first choice increasing power demands in remote hybrid telecom sites and other tough off-grid applications.

#### Standards

Test standards
IEC60896-21/-22, IEC61427, YD/T799 etc.
Safety standard, ventilation
EN 50272-2
Manufactured under system
ISO9001/TL9000& ISO 14001 by Narada

#### Benefits

- Excellent deep cycling capability
- Suitable for continuous operation at temperatures in excess of 35°C
- Reduced system operating costs
- 25% electricity power saving
- Up to 100% air conditioner maintenance saving
- Up to 100% condensing agent saving
- 30% CO2 gas emission reduce
- Less than 1 year payback period depend on environment



#### Technical specifications

Electrical data	
Nominal voltage	2 V
Number of cells	1
Rated capacity	800Ah -80A for 10h to 1.80V/cell(25°C) 842Ah -84.2A for 10h to 1.80V/cell(35°C)
Internal resistance	0.18mΩ(acc.to IEC 60896-21)
Short circuit current	10873 A(acc.to IEC 60896-21)
Self discharge(35°C)	less than 5% per month
Design life at 35°C	15 years
Mechanical data	
Weight ready for use	61 kg(134.5 lbs)
Length	231mm(9.09 in)
Width	231mm(6.10 in)
Height of monobloc	396mm(15.55 in)
Total height	408mm(16.02 in)
Terminal	M8 female
Terminal hardware torque	1.0 -12Nm

#### Constant Current Discharge Data Units:Amperes(35°C,95°F)

End Voltage	15 min	30 min	60 min	3 hour	5 hour	8 hour	10 hour	24 hour	48 hour	72 hour	120 hour	240 hour
1.75V	835.1	622.5	451.7	218.6	148.9	102.3	85.3	38.5	19.7	13.5	8.53	4.40
1.80V	778.8	582.8	429.0	213.7	145.5	100.4	84.2	37.6	19.4	13.3	8.42	4.34
1.83V	716.9	544.0	404.7	207.3	143.3	99.8	83.7	37.6	19.3	13.2	8.37	4.31
1.85V	662.5	512.4	378.8	196.0	136.4	96.3	80.8	36.5	18.6	12.8	8.16	4.20
1.88V	599.2	474.3	344.0	184.8	129.9	92.8	77.7	35.5	18.0	12.2	7.77	4.00
1.90V	523.0	425.8	313.2	175.1	123.5	87.3	73.5	34.2	16.9	11.6	7.35	3.79

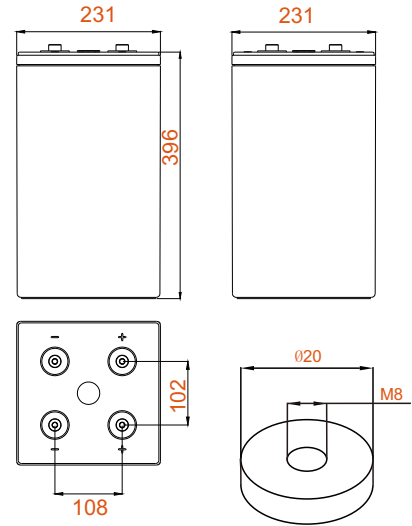
#### Constant Power Discharge Data Units:Watts per cell(35°C,95°F)

End Voltage	5 min	15 min	30 min	60 min	90 min	2 hour	3 hour	4 hour	5 hour	6 hour	8 hour	10 hour	12 hour	24 hour
1.70V	1879.8	1598.6	1302.5	952.1	726.0	598.2	460.2	371.1	313.6	275.5	226.1	188.0	156.7	82.2
1.75V	1802.8	1529.8	1224.5	897.8	683.9	572.0	451.3	364.6	307.9	267.4	221.2	186.4	155.3	81.4
1.80V	1721.8	1442.3	1144.5	826.5	642.5	551.0	437.5	358.9	299.8	261.7	216.3	183.1	152.6	80.2
1.83V	1620.5	1349.1	1069.5	773.0	611.7	530.7	427.8	349.2	291.7	254.4	210.7	179.9	149.9	79.0
1.85V	1518.2	1260	988.5	708.2	575.3	510.5	413.2	339.5	283.6	247.1	204.0	173.4	144.5	77.0
1.88V	1415.9	1157.7	891.3	648.2	551.0	484.5	390.5	325.7	275.5	241.5	198.5	168.5	140.4	74.9
1.90V	1276.2	1020.9	808.2	600.4	518.6	460.2	376.8	314.4	265.0	233.4	191.2	163.2	136.0	72.1
1.94V	1154.6	932.8	714.0	541.3	472.4	423.8	344.8	286.4	241.5	209.9	171.8	147.0	122.5	71.3

## Construction

Positive plate	Reinforced grids in a corrosion-resistant pure lead, high tin, low calcium alloy
Negative plate	Lead-calcium alloy grid
Separator	High density microporous glass mat with low electrical resistance
Container & lid	High temperature ABS. Optional flame retardant versions available (UL94 FV-0 with L.O.I. of 28%)
Electrolyte	Sulphuric acid with a density of 1.28g/ml absorbed in AGM
Terminal design	Patented leak resistant seal configuration with brass insert
Safety valve	Calibrated opening pressure, the valve equipped with flame arrestors for increased operational safety and service life.

## Dimensions (mm)



Terminal Dimensions

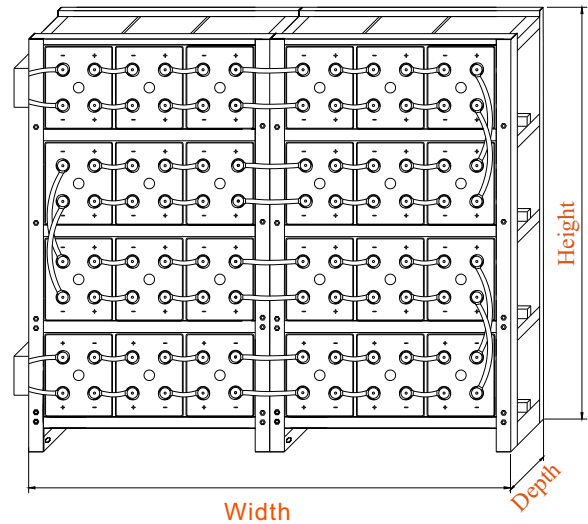
## Installation and operation

- Recommended float charge voltage compensation in function of temperature: 2.24V per cell at 35°C -3mV/°C /cell
- Cycle and equalize charge voltage: 2.30V per cell at 35°C, or case by case compensation in function of temperature: -5mV/°C /cell
- CC-CV charge current: unlimited, otherwise 0.25C10A max. if T>25°C
- Preferred operating temperature range: 15°C to 35°C (68°F to 95°F)
- Maximum operating temperature range: -40°C to 80°C (-40°F to 176°F)
- A separate battery room: is not necessary
- Reduced maintenance: no water addition required

## Racking (optional)

Narada racks are constructed using strong, easy to assemble, powder-coated steel tubing and come complete with sliding cover terminal (take-off) plates.

Cell model:	HTB-800		
Number of cells:	24		
System Voltage:	48		
Cell Configuration	4 high 6 wide	6 high 4 wide	In outdoor cabinet
Rack width (mm)	1646	1064	Cabinet width (1520)
Rack depth (mm)	405	405	Cabinet depth (1710)
Rack height (mm)	1204	1756	Cabinet height (1520)
System weight (kg)	1575	1563	1880



\* Please allow 100mm for terminal boxes

**NARADA POWER SOURCE CO.,LTD.**  
9F, Building A, No. 50 Zijinghua Road, Hangzhou, China  
Tel: +86-571-28827013 Fax: +86-571-28828290  
Website: www.naradabattery.com E-mail: intl@narada.biz

**NARADA ASIA PACIFIC PTE.LTD.**  
65 Ubi Crescent #07-05 HOLA centre, Singapore  
Tel: +65-6848 1191 Fax: +65-6749 3498  
E-mail: sales@narada.com.sg

**NARADA EUROPE (UK) LIMITED**  
Spectrum House, Dunstable Road, Redbourn,  
St. Albans, Herts AL3 7PR  
Tel: +44 (0)845 371 7095 Fax: +44 (0)845 612 2031  
E-mail: sales@naradaeurope.com

