

Narada

stored energy solutions for a demanding world

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 & ISO14001 by Narada

12 HTB 150

High Temperature Break through Innovation

313K

12V Series

High Temperature Batteries

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	12 V
Number of cells	6
Rated capacity(35°C)	156Ah- 15.6 A for 10h to 1.80V/cell
Rated capacity(25°C)	150Ah- 15 A for 10h to 1.80V/cell
Internal resistance	4.8mΩ (acc. to IEC60896-21)
Short circuit current	2560A (acc. to IEC60896-21)
Self discharge(35°C)	less than 5% per month
Design life at 35°C	10 years

Mechanical data

Weight ready for use	56.0 kg (115.7 lbs)
Length	546 mm (21.5 in)
Width	125 mm (4.92 in)
Height of monobloc	310 mm (12.20 in)
Total height	310 mm (12.20 in)
Terminal	M 6 female
Terminal hardware torque	7-9 Nm

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

End Voltage	Time (minutes)				Time (hours)								
	5	15	30	45	1	2	3	5	8	10	12	20	24
1.60V	477	267	162	117	95.8	55.0	43.1	29.7	19.6	16.2	13.6	8.49	7.07
1.67V	467	258	159	116	95.3	54.7	42.2	29.4	19.3	16.1	13.5	8.41	7.04
1.70V	453	253	157	114	94.6	54.3	42.0	29.0	19.1	15.9	13.4	8.39	7.02
1.75V	425	246	153	112	93.2	52.8	41.5	28.7	18.9	15.7	13.2	8.37	6.99
1.80V	381	228	149	110	90.7	52.4	41.3	28.0	18.7	15.6	13.1	8.29	6.95
1.83V	363	210	146	106	86.8	51.7	40.0	27.1	18.5	15.0	12.8	8.27	6.90
1.85V	341	203	136	102	84.2	49.9	38.8	26.4	18.0	14.9	12.7	8.11	6.83

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

End Voltage	Time (minutes)				Time (hours)								
	5	15	30	45	1	2	3	5	8	10	12	20	24
1.60V	831	469	293	220	180.3	104.0	81.9	56.9	38.0	31.4	26.4	16.85	14.14
1.67V	801	461	291	219	179.2	103.0	80.8	56.5	37.5	31.3	26.2	16.74	14.04
1.70V	796	456	289	216	177.2	102.8	80.3	56.0	37.4	30.8	26.1	16.74	14.04
1.75V	743	449	286	214	176.1	102.5	79.9	55.7	36.7	30.7	26.0	16.64	14.04
1.80V	694	427	283	213	173.0	102.2	79.7	54.5	36.5	30.5	25.9	16.64	13.94
1.83V	669	392	279	207	167.9	100.9	77.9	53.4	36.7	29.7	25.4	16.54	13.94
1.85V	633	383	259	198	162.7	97.6	75.7	52.0	35.6	29.5	25.2	16.33	13.83

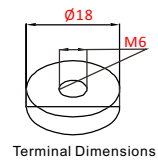
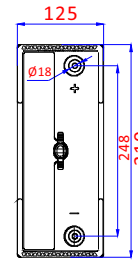
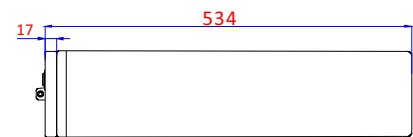
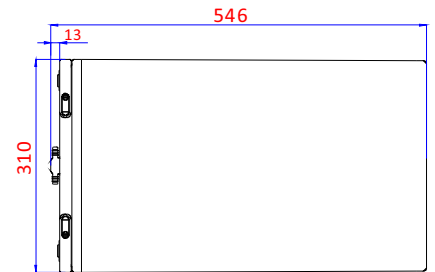
Construction

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 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.

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: compensation in function of temperature	2.30V per cell at 35°C -5mV/°C/cell
• CC-CV charge current	unlimited, otherwise 0.25C ₁₀ A 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.

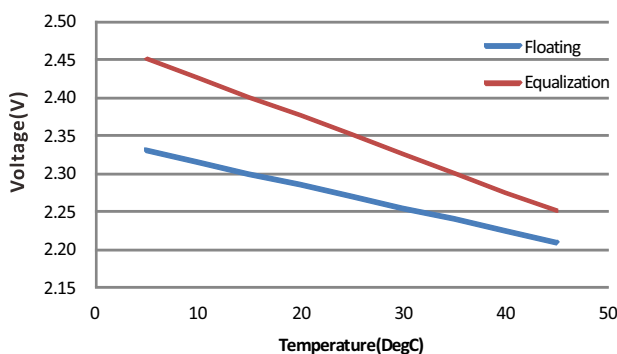
Dimensions (mm)



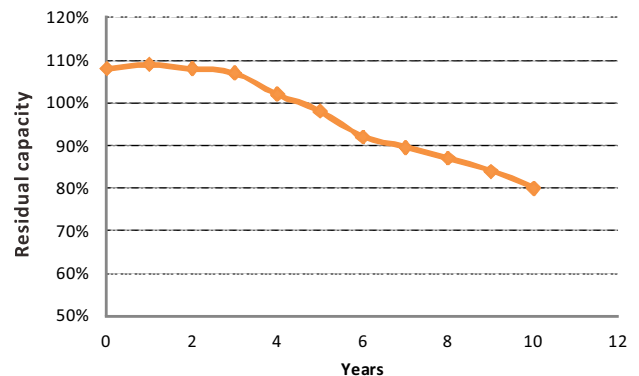
Terminal Dimensions

Charge voltage and Expect life

Charge voltage vs. temperature



Expect life at 35°C



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