

12 HTB 100

High Temperature Break through Innovation

Narada

stored energy solutions for a demanding world

313K
12V Series

High Temperature Batteries

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

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)	103Ah- 10.3 A for 10h to 1.80V/cell
Rated capacity(25°C)	100Ah- 10 A for 10h to 1.80V/cell
Internal resistance	6.15 mΩ (acc. to IEC60896-21)
Short circuit current	2150 A (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	35 kg (77.2 lbs)
Length	390 mm (15.4 in)
Width	108 mm (4.25 in)
Height of monobloc	287 mm (11.3 in)
Total height	287 mm (11.3 in)
Terminal	M6 female
Terminal hardware torque	8±1.0 Nm

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

End voltage	5min	15min	45min	1hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	12hr	20hr	24hr
1.60Vpc	244	166	89.3	73.4	43.6	31.3	24.5	20.1	17.1	13.1	10.7	8.99	5.51	4.61
1.67Vpc	241	164	88.4	72.7	43.3	31.1	24.3	20.0	17.0	13.1	10.6	8.95	5.48	4.59
1.70Vpc	238	163	87.7	72.2	43.0	30.9	24.2	19.9	16.9	13.0	10.6	8.94	5.48	4.59
1.75Vpc	230	158	85.6	70.6	42.2	30.4	23.9	19.6	16.7	12.9	10.5	8.83	5.42	4.54
1.80Vpc	216	150	82.1	67.9	40.9	29.6	23.3	19.2	16.4	12.6	10.3	8.69	5.36	4.49
1.83Vpc	206	143	78.6	65.1	39.5	28.7	22.6	18.7	16.0	12.4	10.1	8.53	5.27	4.43
1.85Vpc	200	136	75.0	62.3	38.0	27.7	21.9	18.2	15.6	12.1	9.90	8.39	5.21	4.38

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

End voltage	5min	15min	45min	1hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	12hr	20hr	24hr
1.60Vpc	457	302	162	135	81.6	59.2	46.7	38.6	33.0	25.6	20.9	17.7	10.9	9.20
1.67Vpc	444	297	161	134	81.3	59.1	46.6	38.6	32.9	25.5	20.9	17.7	11.0	9.20
1.70Vpc	435	294	160	134	81.1	58.9	46.5	38.5	32.9	25.5	20.9	17.6	10.9	9.19
1.75Vpc	417	286	157	132	80.1	58.2	46.0	38.1	32.5	25.2	20.6	17.4	10.8	9.09
1.80Vpc	389	273	152	128	78.1	57.0	45.1	37.4	31.9	24.8	20.3	17.2	10.7	8.97
1.83Vpc	371	261	147	123	75.8	55.5	43.9	36.5	31.2	24.3	19.9	16.9	10.5	8.82
1.85Vpc	359	251	141	119	73.6	54.0	42.9	35.7	30.6	23.9	19.6	16.6	10.4	8.70

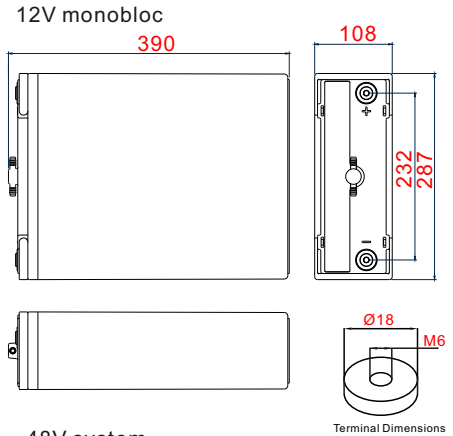
Construction

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.

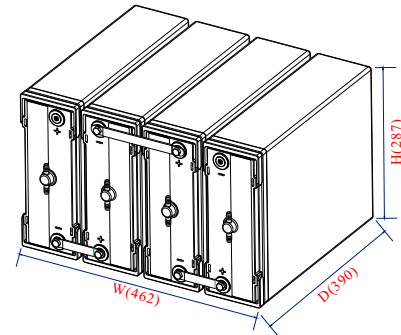
Installation and operation

• 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)

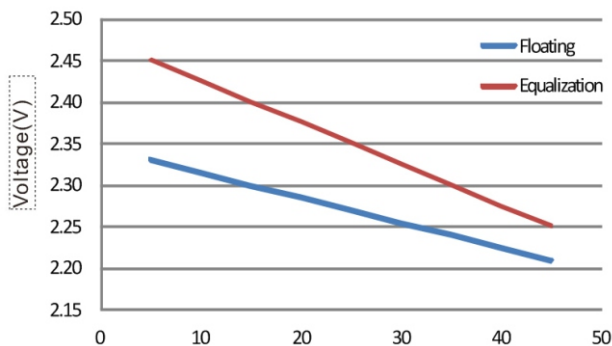


48V system



Charge voltage and Expect life

Charge voltage vs temperature



Expect life at 35°C

