

## 12HRL365

## HRL SERIES

The Narada High Rate range of VRLA batteries provide reliable battery backup to any High Rate UPS application.

All Narada High Rate series batteries use optimized plate technology and a patented post design offering exceptional service life.



### Technical Features:

- ◆ Flame Retardant ABS Cover and Container, UL94 V-0, LOI>28%
- ◆ Patented copper alloy terminal design
- ◆ Epoxy TPS design for high reliability post seal
- ◆ 6 months of storage at 77°F (25°C) with a capacity > 80%
- ◆ Initial capacity at 100%
- ◆ Low pressure one-way flame arresting valve(s) UL1989
- ◆ Absorbent Glass Mat (AGM) Sealed Technology, Recombination efficiency of 99.9%

### Compliance and Safety:

- ◆ **ISO 9001:2000 and ISO 14001:2004 certified production facilities**
- ◆ UL Recognized Component 924, for use in or with listed UL1778, UL1989 and UL924 systems
- ◆ IEC60896-21/22
- ◆ BS6290 part 4 / Eurobatt guide
- ◆ **TL9001 / ISO9001(TUV) Quality System**
- ◆ Battery installation compliant with: EN 50272-2
- ◆ All batteries meet or exceed IEEE recommended practices

### Transportation:

- ◆ Classified as Nonspillable UN 2800 and meet the Nonspillable criteria listed in DOT-CFR Title 49, 171-189 (d) (3) (i) and (ii) and exempt from CFR 49, Subchapter C requirements
- ◆ Meets transportation conditions of IMDG exemption 238, IATA/ICAO Special Provision A67 (Not Restricted)

WPC @ 15 min 1.67 VPC / 77°F (25°C)	365 watts
WPC @ 5 min 1.60 VPC / 77°F (25°C)	784 watts
Ah @ 20hr 1.75 VPC / 77°F (25°C)	93 Ah

Nominal voltage	12V
Float charge voltage @25°C (2.25 – 2.27VPC)	13.5 – 13.62
Max. charge current (A) (5 hour rate @ 1.75VPC)	18.6 Amps

Electrolyte Absorbed H <sub>2</sub> SO <sub>4</sub>	1.300
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Short circuit current (A)	2200 Amps
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Internal resistance (mΩ)	6.5 mΩ
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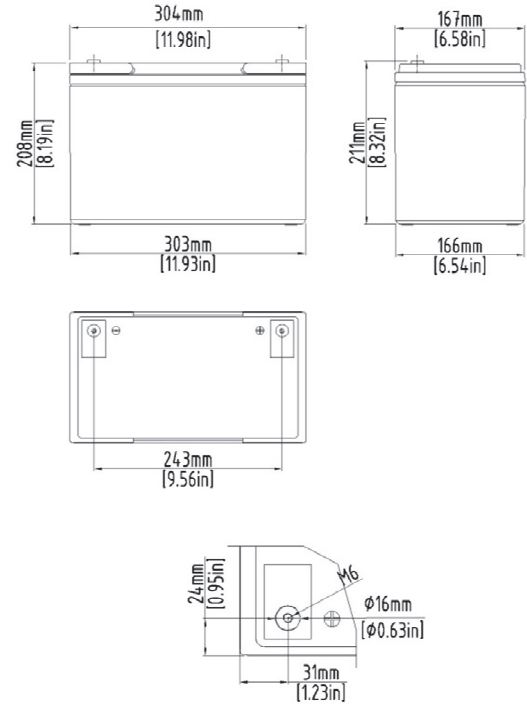
Terminal Type	Torque
M6-F	78 in-lbs (8 ±1 Nm)

Dimension	in	mm
Length	11.98	304
Length Base	11.93	303
Width	6.58	167
Overall Height	8.32	211

Weight	Lbs.	Kg
	66.4	30.2

### Operating Parameters

Float Charging Voltage	13.5V / 2.25VPC @ 77°F (25°C)
Equalize /Cycle	14.0V – 14.3V 2.33VPC to 2.38VPC @ 77°F (25°C)
See Operations and Maintenance Manual for specific guidelines and recharge times	
Charging Temperature Compensation	-2 mV/cell/°F > 77°F (-3.6 mV/cell /°C > 25°C)
	+2 mV/cell/°F < 77°F (+3.6 mV/cell/°C < 25°C)
Maximum AC Ripple (Charger)	0.5% RMS, 1.5% peak-to-peak for float charge voltage for best results
<b>Operating Temperature Range</b>	
Nominal	+74°F (24°C) to 80°F (27°C)
Charge	-20°F (-28°C) to +122°F (50°C)
Discharge	-40°F (-40°C) to +140°F (60°C)
Storage Temperature Range	-4°F (-20°C) to +104°F (40°C)



### Constant Power Discharge Watts per cell (25°C, 77°F)

End Cell Voltage	5min	10min	15min	20min	30min	40min	50min	1h	2h
1.60V	784	498	373	297					
1.63V	765	491	369	294	217				
1.67V	747	484	365	291	216	170	142	123	
1.70V	726	474	359	287	214	168	140	122	
1.75V	686	454	345	277	208	164	137	119	66.0
1.80V	639	428	328	264	199	158	133	116	64.6
1.83V	606	409	316	255	194	154	130	113	63.7
1.85V	588	399	309	251	191	152	128	112	63.2

### Constant Current Discharge Amperes (25°C, 77°F)

End Cell Voltage	5min	15min	30min	1h	2h	4h	8h	10h	20h
1.60V	421	194							
1.67V	408	191	111	62					
1.70V	390	187	109	61					
1.75V	368	180	106	60	33.0	17.7	9.4	9.0	4.65
1.80V	343	171	102	58	32.3	17.4	9.2	8.8	4.55
1.83V	325	164	99	57	31.8	17.2	9.1	8.7	4.47
1.85V	316	161	97	56	31.6	17.1	9.1	8.6	4.43

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