

## 12HRL705F

## 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)	694 watts
WPC @ 5 min 1.60 VPC / 77°F (25°C)	1,273 watts
Ah @ 10hr 1.75 VPC / 77°F (25°C)	223 Ah

Nominal voltage	12V
Float charge voltage @25°C (2.23 – 2.27VPC)	13.4 – 13.6
Max. charge current (A) (5 hour rate @ 1.75VPC)	66 Amps

Electrolyte Absorbed H <sub>2</sub> SO <sub>4</sub>	1.300
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Short circuit current (A)	2915 Amps
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Internal resistance (mΩ)	4.5 mΩ
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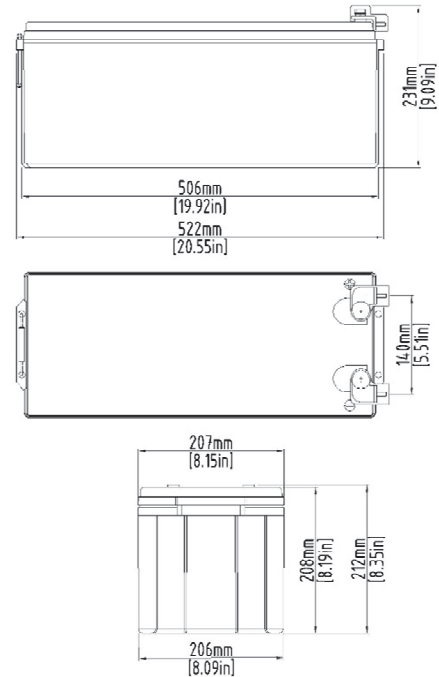
Terminal Type	Torque
M6-M (Front L Bracket)	78 in-lbs (8 ±1 Nm)
M8-F (Top Insert)	90 in-lbs (10 ±1 Nm)

Dimension	in	mm
Length	20.55	522
Width	8.15	207
Overall Height	9.09	231

Weight	Lbs.	Kg
	143	65

### 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
Operating Temperature Range	
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	1,273	931.1	721.6	596.1	467				
1.67V	1,180	884.9	694	577	456.4	364.4	307.7	268.5	152
1.70V	1,154	870.2	684.7	570.4	452.6	361.9	305.9	267.2	151.7
1.75V	1,067	819.1	651.5	546.6	438.1	352.4	299.4	262.7	150.8
1.80V	968	781.8	610.1	516.6	419.4	339.9	290.6	256.4	149.5
1.83V	897	755.2	580.4	495.1	406.1	331	284.4	251.9	148.6
1.85V	859	740.8	564.5	483.5	398.9	326.2	281	249.5	148.2

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

End Cell Voltage	5min	15min	30min	1h	2h	3h	4h	8h	10h
1.60V	683	375.2	238.3						
1.67V	633.4	360.9	232.9	135.0	76.0	53.8	44.5	23.9	22.5
1.70V	619	356	231	134.4	75.9	53.7	44.4	23.8	22.5
1.75V	573	338.8	223.6	132	75.4	53.5	44.3	23.6	22.3
1.80V	519	317.2	214.1	129	74.8	53.4	44.1	23.4	22
1.83V	481	301.8	207.2	126.8	74.3	53.4	43.9	23.3	21.9
1.85V	461	293.5	203.6	125.6	74.1	53.3	43.9	23.2	21.8

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