

## 12HRL390



The Narada High Rate range of VRLA batteries and 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)	390 watts
wpc @ 5 min 1.60 vpc / 77°F (25°C)	699 watts
Ah @ 20hr 1.75 vpc / 77°F (25°C)	96 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)	25 Amps

Electrolyte Absorbed H <sub>2</sub> SO <sub>4</sub>	1.300
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Short Circuit Current (A)	3100 Amps
Internal Resistance (mΩ)	4.25 mΩ

Terminal Type	Torque
M6-M (Front L Bracket)	78 in-lbs (8 ±1 Nm)
M6-F (Top Insert)	78 in-lbs (8 ±1 Nm)

Dimension	in	mm
Length	20.12	511
Length Base	19.12	486
Width	4.32	110
Overall Height	9.37	238

	Lbs.	Kg
Weight	75	34

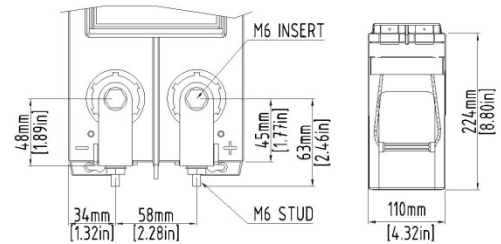
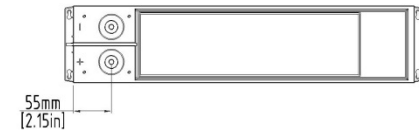
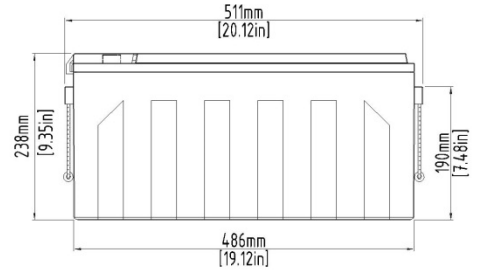
## Operating Parameters

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
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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	698.9	514.7	398.6	327.1	242.9	185.7	155.5	135.0	75.6
1.67V	665.9	498.9	390.0	322.0	240.9	184.9	155.2	134.0	75.5
1.70V	646.1	487.9	383.6	318.1	239.2	184.2	154.0	133.0	75.3
1.75V	601.5	461.9	368.4	308.7	235.4	182.8	153.0	132.0	75.1
1.80V	537.6	426.3	348.0	296.3	230.5	180.9	152.0	131.0	73.5
1.83V	497.6	404.3	334.2	286.7	224.9	177.1	150.7	130.0	71.6
1.85V	472.6	389.0	323.5	278.6	219.4	173.1	147.3	128.1	69.7

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

End Cell Voltage	5min	15min	30min	1h	2h	4h	8h	10h	20h
1.60V	407	213	128	70	39.5	21.7	11.9	9.7	5.09
1.67V	381	208	127	70	39.2	21.6	11.8	9.7	5.09
1.70V	364	205	126	70	39.1	21.5	11.7	9.7	5.09
1.75V	332	197	123	69	38.9	21.4	11.6	9.6	5.04
1.80V	298	185	118	67	38.2	21.1	11.5	9.5	4.99
1.83V	276	175	113	65	37.6	20.9	11.4	9.4	4.94
1.85V	261	166	109	63	36.8	20.5	11.2	9.1	4.78

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