

12HRL140

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)	140 watts
WPC @ 5 min 1.67 VPC / 77°F (25°C)	276 watts
Ah @ 20hr 1.75 VPC / 77°F (25°C)	35 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)	10.0 Amps

Electrolyte Absorbed H ₂ SO ₄	1.300
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Short circuit current (A)	800 Amps
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Internal resistance (mΩ)	10.0 mΩ
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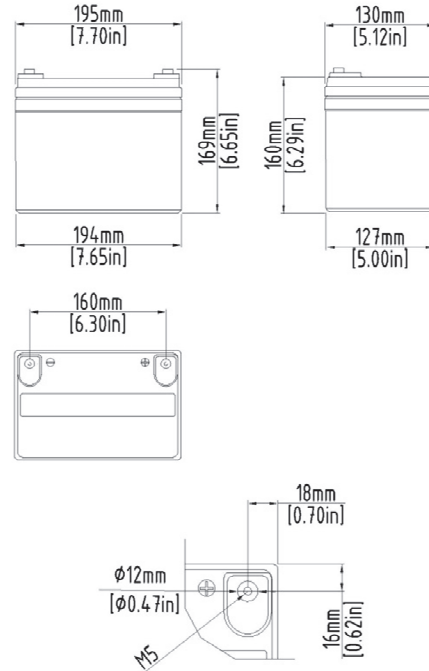
Terminal Type	Torque
M5-F	65 in-lbs (6 ±1 Nm)

Dimension	in	mm
Length	7.68	195
Length Base	7.68	195
Width	5.12	130
Overall Height	7.09	180

Weight	Lbs.	Kg
	24	10.7

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	288	184	143	115					
1.63V	282	181	141	114	84.3				
1.67V	276	179	140	113	83.9	71.0	62.0	54.0	
1.70V	269	180	138	111	82.7	68.2	59.5	51.8	
1.75V	254	181	134	107	81.0	65.3	57.0	49.7	25.3
1.80V	236	158	121	104	78.0	60.0	51.0	38.0	21.0

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

End Cell Voltage	5min	15min	30min	1h	2h	4h	8h	10h	20h
1.67V	115	80	44.3	24.9					
1.70V	109	76	43.5	24.5					
1.75V	105	73	41.9	24.1	13.0	7.14	4.03	3.45	1.76
1.80V	98	70	40.2	23.6	12.8	6.90	3.99	3.30	1.70
1.83V	91	66	39.0	23.2	12.1	6.72	3.81	3.20	1.64
1.85V	71	55	34.6	20.9	11.5	6.10	3.56	3.07	1.58

China: **Narada**
 NARADA POWER SOURCE CO. LTD.
 No.459 Wensan Road, Hangzhou, Zhejiang, P.R.China

MP Narada MPINarada
 44 Oak St
 Newton, MA 02464
 Tel: 800-982-4339
 sales@mpinarada.com www.mpinarada.com

